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Approaching Policy Discourse on the Chinese Cultural Industry from a Time-Series Perspective: Focusing on Text Mining and Network Analysis

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Abstract:

The Chinese cultural industry has evolved into a significant economic growth engine, creating a unique trend distinctive to China. This study analyzes the development and evolution of the Chinese cultural industry by assessing policy discourse from a time-series perspective. By employing text mining and network analysis on text data spanning 15 years from a Chinese online platform, this research uncovers the trajectory of the cultural industry's development, which follows the phases of research, imitation, marketization, and industrialization. The novelty of this study lies in its comprehensive examination of policy discourse through advanced methodologies, revealing the convergence of disparate developmental forms into a coherent directionality over time. The core-periphery analysis further illustrates the formation of a synergistic Chinese-style developmental model that balances public engagement with the preservation and application of cultural archetypes while integrating various national growth strategies. This study provides new insights into the dynamic interplay between policy and practice in the Chinese cultural industry, offering a macroscopic perspective that contributes to the existing literature.

Keywords: Chinese cultural industry, time-series discourse analysis, text mining, network analysis, core-periphery structure analysis, Chinese-style developmental model.

从时间序列视角探讨中国文化产业政策话语：以文本挖掘和网络分析为重点

摘要：

中国文化产业已成为经济增长的重要引擎，形成了中国独有的趋势。本研究通过从时间序列的角度评估政

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策话语, 分析中国文化产业的发展 and 演变。通过对来自中国网络平台的15年文本数据进行文本挖掘和网络分析, 本研究揭示了文化产业发展轨迹, 即研究、模仿、市场化和产业化阶段。本研究的创新之处在于它通过先进的方法全面考察政策话语, 揭示了随着时间的推移, 不同的发展形式逐渐趋于一致。核心-边缘分析进一步说明了中国式协同发展模式的形成, 该模式在整合各种国家增长战略的同时, 平衡了公众参与与文化原型的保存和应用。本研究为中国文化产业政策与实践之间的动态相互作用提供了新的见解, 为现有文献提供了一个宏观视角。

关键词: 文化产业, 时间序列话语分析, 文本挖掘, 网络分析, 核心-边缘结构分析, 中国式发展模式。

1. Introduction

Beginning in the 2000s, China selected the cultural industry, which emphasizes the economic value of culture, as its major engine of national advancement (Throsby, 2010; Wang, 2004; White & Xu, 2012). After the period of Reform and Opening-up, China's economy continued to show rapid growth at an annual rate of over 10% and has been a G2 economic superpower since 2001. China needed a new growth engine to enable sustainable development, and culture was identified as a central resource for economic progress. Before the 1980s, Chinese cultural policy was used as a means of disseminating the Chinese Communist Party's ideology or educating other cultures about its ideology (Huilin, 2019). However, along with economic growth, the importance of culture drew attention in two ways: the first is "economic feasibility," and the second is the "globalization of the Chinese culture." The former is represented by terms such as the "cultural industry," "cultural creativity," "creative industry," and "cultural creative industry," and the latter signifies that the cultural policy of China is switching from a "great cultural country" to a "cultural powerhouse."

The economic feasibility of culture and that of cultural globalization are not separate ideas but closely connected. The reason that culture was selected as a novel production resource for China's economic growth engine is that the cultural industry promotes high-value added creation and buttresses the perception that culture is as important as the economic ripple effect in international society. In other words, the Chinese government made a strategic decision that it can only become a true global hegemonic power by having a cultural impact that overlaps with its economic influence. This shift in Chinese cultural policy has attracted attention from many scholars (Hesmondhalgh & Pratt, 2005; Ho & Fung, 2016; Huilin, 2019; Keane, 2009). Moreover, as the method chosen by China transitioned from quantitative to qualitative development, people began to perceive intangible values, such as soft power (e.g., talent, creativity, content, art-producing regions, etc.), as important. Regarding cultural politics, questions regarding the industrialization of intangible values and the means by which the industrialized globalization of Chinese culture can be conducted emerged as central points in

the discourse surrounding cultural policies. In this regard, China has set the cultural and cultural creative industries as the developmental directions, and central and local governments have undertaken related policy establishments and large-scale investments since the early 2000s.

However, the Chinese cultural industry could not avoid the criticism (White & Xu, 2012) that it lacks a unified policy and implementation. Keane (2011) identified a large regional gap in policy and key cultural industry items/contents and suggested that it was doubtful whether true creativity was manifested because no integrative guidelines were in place. In addition, Heilmann (2007) argued that because of the determination of cultural policy functions through experimentation under hierarchy, presuming the diversity of Chinese culture (White & Xu, 2012), practice is prioritized over policy. Therefore, he found that advocating the Chinese cultural industry was merely a response to a matter already occurring in reality.

Certainly, from a cross-sectional (spatial) perspective, the heterogeneous characteristics of regions (specificity based on local culture) could be highlighted over the universality of cultural policy (the central government's suggestion on unified guidelines and directionality) in the development of the Chinese cultural industry. However, from a longitudinal (time-series) perspective, the universality and heterogeneity of the Chinese cultural industry can be distinguished, and the stream of policy and trends in industrial development can be identified. The characteristics of experimentation under hierarchy can be classified and undergo policy feedback through an examination of the roles of core keywords as shown in the policy discourse of the Chinese cultural industry during each period.

Thus, this study attempts to identify a new viewpoint with respect to the two criticisms (absence of unity and experimentation under hierarchy) in policies promoting two developmental directionalities (economic feasibility and globalization) in the Chinese cultural industry. The ideal goal of such industry development is to take the initiative and impetus of policy and develop it through private competence to create an ecosystem that exhibits a virtuous circle that develops independently and continually. Although China certainly exhibits a strong top-down form of policy promotion, it induces enhanced economic value and globalization through its

private/civil society, which is founded on cultural policies. The policy discourse formed at this stage can provide insights into the process and outcomes of policy expansion achieved in private areas. Thus, this study reinterprets the Chinese cultural industry policy by analyzing the policy discourse surrounding it in a time series. This study identifies trends in the Chinese cultural policy discourse in relation to the stream of time to propose macroscopic directionality. In its analytical methodology, this study employs text mining and network analysis. These two methodologies are used to distinguish the universality and heterogeneity of the policies of the Chinese cultural industry and identify the leading trends in cultural policy by analyzing textual big data in a time series and investigating the roles of core policy keywords during each period. This approach is believed to provide a meaningful inference that complements preceding research and predict the directionality of policies in the Chinese cultural industry.

2. Literature Review

In the early 21st century, as Chinese cultural policy stressed economic logic, related research increased rapidly (Ho, 2017; Liu et al., 2020; Si, 2016; Su, 2010; Tong & Hung, 2012). Further, during the globalization of cultural creativity taking place in the 2000s, drawing on a perspective founded in the UK in the 1980s, culture became established as a high-value added resource (Throsby, 2015; Towse, 2020). China promoted its policy with respect to the cultural industry through positive stimulation in relation to internal (economic growth through the cultural industry) and external (globalization of the cultural industry) factors. There was certainly criticism in relation to reducing the purity of culture to be of economic value (Throsby, 2010), but China judged that integrating economic vitality into cultural production would support a positive transition to modern society (Pang, 2012; Shan, 2014). By industrializing ideas and content that can help manifest collective creativity and reflect Chinese society and culture (Kong, 2014), the government sought to take the initiative to promote innovation-based development across the nation.

While there was a skeptical perspective (Gibson & Kong, 2005) on the question of whether public support in the cultural sphere would substantially draw out the social common good and economic advancement, China determined that obtaining successful results in the context of strong government-led economic growth policies would be equally applicable to promoting cultural industry policies. Therefore, as Heilmann (2007) noted, they expanded the policy by applying the concept of “experimentation under hierarchy.” They sought to trim the developmental direction of cultural policy for the country by means of an experimental model termed the “cultural industrial zone” or “creative park” that presumes diversity and heterogeneity in relation to the region or cultural zone of the cultural industry, expansively applying success and know-how

to the surroundings and setting forth its general usability. This policy became the trigger for developing industrial clusters around China’s major cities, especially coastal cities, which rapidly developed in combination with policy support and investment by stakeholders (e.g., local governments, institutions, and land development corporations) (Keane, 2011; O’Connor & Gu, 2014; Shan, 2014). Furthermore, the Chinese government determined that government-led development is more effective than a fully market-driven approach as the innovative outputs of the cultural industry will always face the uncertainties of rapidly changing trends and issues related to consumer choice and high-quality content creation (Zhou et al., 2020). Consequently, the Chinese cultural industry exhibited sustained annual growth rates of 3.1%, 5.9%, and 9% for the three 5-year periods from 2006 to 2020, respectively (PwC, 2016). However, the encouraging growth of the cultural industry is actually rooted in the expansion of government policy into private/civil society, and the resulting industrial ecosystem plays a positive role rather than the government unilaterally leading it. The improved consumption level of Chinese people, the application of digital technology, and the construction and expansion of network SOC are developmental factors that one cannot consider in isolation. In particular, the government’s cultural industry policy discourse has been generating a vigorous leadership trend for the cultural industrial ecosystem since 2016, and the developmental trends of the industry can be seen as having been formed because the discourse provided feedback to the policy.

From another perspective, White and Xu (2012) highlighted that because the Chinese cultural industry adopts a method of disparate promotion per region, the policy remains ambiguous and lacks unity at the national level. Moreover, they argue that Chinese cultural policies are not based on a loose approach, but rather on various forms of censorship. Likewise, they added that the need for a new developmental engine capable of helping overcome the global economic crisis of 2008 and compete with the cultural influence of the U.S. (Disney), Japan (animation), and South Korea (the Korean Wave) was an internal/external factor actively promoting the Chinese cultural industry. However, the national ambiguity in the Chinese cultural industry policy they indicate occurred because of an approach from a cross-sectional perspective that only considers circumstances specific to the given time. It is virtually impossible to reflect regional diversity and heterogeneous cultures within the confines of one policy. It is necessary to develop a view that considers the time when cultural industry policies reflect the realities of modern society and create a future culture, that is, a dynamic dimension that continues to evolve and progress. The policy discourse related to the cultural industry most suitably reflects this dynamic flow.

Therefore, it is necessary for China’s cultural industry policy to be approached in a time-series

manner to complement the aforementioned perspectives. It is necessary to trace the transformations and flows securing policy continuity by contemplating the universality and disparate properties of the Chinese cultural industry across periods within the policy discourse and examine policy keywords in the discourse and their roles. While the two critical perspectives provide a mechanism for understanding the Chinese cultural industry from a short-term perspective, it is also necessary to understand it from a long-term, macroscopic perspective. To this end, this study proposes two research questions as an extension of previous studies.

RQ1: What policy keywords does the Chinese cultural industry policy discourse use and how are they changing?

RQ2: What are the core keywords that lead trends in different periods in the policy discourse on the Chinese cultural industry and what roles and characteristics do they reflect?

3. China's Cultural Industry Policy

The Chinese cultural industry policy has been addressed by a number of studies (Shan, 2014; White & Xu, 2012; Yi et al., 2021). Generally, it is thought that the Chinese cultural industry acquired its economic status from the point when the national statistics bureau began to include culture and art as a statistical category in 1985 (Xiaoming, 2006) and when cultural commercialization measures (Keane, 2007) were taken under the 14th Communist Party Congress in 1993 (Hu, 2010). Furthermore, the 10th Five-Year Plan (2001–2005) uses the term cultural industry as an official policy term, and the 16th CCPC (Chinese Communist Party Congress) in 2002 distinguished culture's public functions (e.g., public cultural project/wenhuashiye) and the cultural industry, solidifying the in-dependent industrial position of the cultural field (Shan, 2014; White & Xu, 2012). After a series of industrial preferential policies, such as financial support and tax cuts, for the cultural industry were adopted over the 20 years that followed, a long-term strategy for fostering the cultural industry was established.

In 2006, the starting point of the 11th Five-Year Plan, the term “creative industry” was used in government policy documents (O'Connor & Xin, 2006), and in the 17th CCPC in 2007, President Hu Jintao himself proclaimed the direction of policy with regard to projects regarding the active cultivation of the cultural industry, corporate promotion, strategic investment, etc. Starting with this period, China's craze for the cultural industry began. Local governments responded promptly to the central government's desire to nurture the cultural industry by enacting various rules, creating detailed measures, and other approaches that reflect regional attributes. Various terms, including “cultural industry,” “creative industry,” and “cultural creative industry,” have been used in China. In September 2009, the State Council announced its

Cultural Industry Promotion Plan, and in 2010 and 2011, the CCPC's Central Committee and the State Council, respectively, emphasized that the promotion of the cultural industry must become an important axis of economic growth (Yi et al., 2021). The Chinese cultural industry grew rapidly thanks to technological innovation, especially with respect to the development of information and communication technology (ICT) and the internet. In 2010, a strategic promotion plan for the emerging industry, announced by the State Council, quickly disseminated a digitalized approach to the cultural creative industry. Due to the fact that literature, art, video, gaming, music, and other creative industries began to be produced and distributed online and were increasingly recognized for their economic viability, they grew in importance as a high-value added industry within the market.

At the 17th CCPC in 2011, intensified reforms to the cultural system were deliberated, and a call was made for China to shift from being a great cultural country toward becoming a cultural powerhouse because of its heightened economic capacity. The objective of developing into a cultural powerhouse was reiterated in the slogan, which called for a significant revitalization of Chinese culture. At the 18th CCPC in November 2012, the strategic objectives of efficiently and qualitatively developing the cultural industry, fusing evolution and technology, increasing the scale of the cultural creative industry, and building a new culture-based industrial ecosystem were set. In addition, the Chinese government enacted the Cultural Industry Promotion Act in 2014, and the central government again identified the goals of the advancement and development of the cultural industry in 2018. In particular, the average annual growth rate of the Chinese cultural industry in 2018 exceeded that of the previous five years by 10%, a rate higher than that of China's general GDP growth rate. This was regarded as an impressive development. About 60,000 cultural corporations post yearly sales of 20 million RMB, and the eastern, central, and western areas recorded 9.2%, 8.5%, and 13.1% average annual growth rates, respectively (National Bureau of Statistics of China, 2019). The reason for this explosive growth is that the emergence of convergence in the business condition of culture +, which benchmarked the internet + policy being promoted in the same period, supported the growth potential of the cultural field. Consumers' increased consumption habits and strengthened willingness and ability to pay for content served as a driving force for synergies in the public expansion of the cultural industry. From this high-speed development, President Xi Jinping reemphasized the goal of making China a cultural powerhouse by 2035 in the 19th CCPC and provided his ambition for global cultural influence, along with China's economic influence.

Thus, China's desire to approach the goal of growth as a cultural powerhouse has received continual

promotion through policymaking and through strategic investment in the cultural industry. As with the capitalist market, investment has been made in stocks, bonds, and other funding, with an average annual investment of 190 billion RMB flowing into the industry from 2016 to 2019. Likewise, policies reflecting the disparate specifics of each region and a universal policy, such as the one mandated by the Cultural Industry Promotion Act, were set up. Therefore, it is necessary to examine the two critical approaches indicated in previous studies from a new perspective through a time-series interpretation of the policy discourse. To put it simply, there remains a need to analyze the cultural industry's flow, which reflects China's unique cultural characteristics. The policy discourse that has been developed to address this flow should also be examined. The overall flow of the research is schematized in Figure 1.

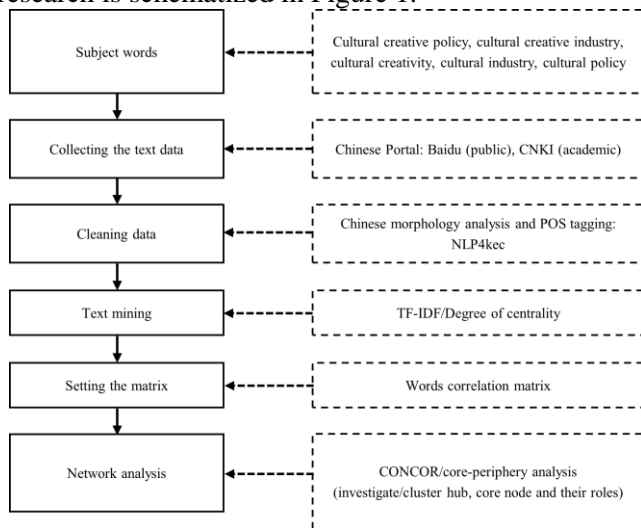


Figure 1. Research process (The authors)

4. Data and Methodology

4.1. Data

The primary data analyzed in this study were textual. The text data were selected from the Baidu and CNKI platforms because these sources are widely recognized and extensively used in China, providing a comprehensive and representative collection of texts related to the cultural industry. The data span 15 years (2006-2020), covering three major Five-Year Development Plans (the 11th, 12th, and 13th FYPs), ensuring a robust longitudinal analysis. The keywords "cultural creative industry," "cultural industry," "creative industry," "cultural creativity," and "cultural policy" were chosen based on their prevalence and significance in previous research on the cultural industry. This selection criterion ensures that data accurately reflect evolving discourse and policy directions in China's cultural industry. Following the exclusion of duplicate documents, the total number of items collected by period was 8,362, 11,328, and 19,884, respectively.

4.2. Text Mining

Text mining is the process of extracting information contained in language as structured data. Because the text data were unstructured, ambiguous, and polysemous, word refinement was undertaken via preprocessing. The collected text was tokenized, and stop words were removed. Subsequently, words were classified by part of speech (POS) using morpheme analysis and POS tagging. This study employed nouns and adjectives to assess policy discourse keywords in the Chinese cultural industry from a time-series perspective. We obtained 1,495, 2,731, and 6,113 significant words per period after data cleaning. From these words, we conducted term frequency–inverse document frequency (TF–IDF) analysis and degree of centrality analysis, measuring the importance of words with their frequency and the strength of their connection. This text mining technique can be used to identify the practical importance of specific words. Next, a matrix was built on the basis of the co-occurrence correlation value of the same words for use in network analysis.

4.3. Network Analysis

Network analysis is a methodology that identifies the new characteristics exhibited in a significant relationship among policy discourse keywords derived from text mining. This method allows quantitative grasping and analysis using the various meanings inherent in the text, not only from a microscopic perspective but also from a macroscopic perspective, and is useful for analyzing discourse and deriving implications. In this study, a matrix built for each period by text mining was used for network analysis. Convergence of iterated correlation (CONCOR) analysis, a widely used method of network analysis, was used. CONCOR is extremely useful for dividing the clusters of the cultural industry's policy discourse according to period and identifying the hub node in the cluster.

Subsequently, we conducted core–periphery analysis to classify the nodes that play a key role in leading the policy discourse within the network and across peripheral nodes. First, the coreness scores for all nodes in the network were calculated. Next, randomized nodes were placed on the core, and an ideal core–periphery block was constructed that repeatedly calculated the correlation with other remaining nodes. From this, the coreness score, where fitness is maximized between the actual data matrix and the ideal core–periphery block, is estimated, and then, the continuous core-periphery structure of the network is explored (Borgatti et al., 2002; Rombac et al., 2014). The model is a simple and efficient way of deriving clusters/patterns in text data and an ideal model for examining the core and peripheral keywords that lead trends in the Chinese cultural industry discourse.

5. Results

5.1. Text Mining

We refined and classified the collected words and ranked them using their TF-IDF values and degrees of centrality. A word's TF-IDF value indicates the importance of the word's frequency, and the degree of centrality value signifies the connection strength between words. When a word's degree of centrality ranking is higher than its TF-IDF ranking, the practical

status of the word within a document is higher than its mentioned frequency. Conversely, when a word's degree of centrality ranking is lower than its TF-IDF ranking, the practical status of the word within a document is lower than its mentioned frequency. This study distinguished and sorted cases where the degree of centrality and TF-IDF rankings differed by five steps or more, respectively, for the top and bottom; the results are presented in Table 1.

Table 1. Results of text mining (The authors)

Subject words	Cultural Creative Policy, Cultural Creative Industry, Cultural Creativity, Cultural Industry, Cultural Policy		
Period	11 th FYP	12 th FYP	13 th FTP
Significant Words (①)>(②)	Enterprise (7/17), Beijing (10/15), Economy (14/31), Taiwan (16/32), Policy (24/34), Project (26/35), Market (30/39), Upgrade (36/41), Service (38/43), Information (40/47)	Taiwan (5/10), Enterprise (10/15), Hangzhou (11/19), City (13/18), Cooperation (16/21), Project (23/30), Global (24/37), Exchange (26/42), Animation (27/47), Science and Tech (28/39), Platform (30/38), Market (31/43), Finance (35/40), Investment	Project (11/18), Taiwan (15/22), Activity (18/34), Global (19/28), Experience (24/32), Science and Tech (27/33), Human (28/48), Platform (31/40), Start-up (32/45), Service (38/43), Industrial Park (42/47), Education (45/50)
Words (①)>(②)	Strategy (12/6), Element (13/8), Media (19/12), Library (22/16), Characteristic (27/21), Marketing (31/22), Consumption (33/28), History (34/26), Experience (44/33), Internet (49/29)	Strategy (20/8), Element (25/13), Characteristic (34/26), Countryside (36/23), Utility (37/28), Library (38/20), History (39/32), Marketing (41/29), Resource (43/36), Upgrade (44/33), Theme (45/34)	Production Design (14/5), Countryside (22/17), Characteristic (25/19), Consumption (35/23), Internet (41/27), Resource (44/38), Strategy (46/12), Finance (48/30), Upgrade (49/42)

Note: ① and ② refer to the degree of centrality and TF-IDF rankings, respectively. Significant words are when the ranking of ① is 5 steps higher than the ranking of ② or vice versa.

First, the degree of centrality ranking was higher than the TF-IDF for all periods for keywords Taiwan and Project. This means that the series of developments and activities related to the Chinese cultural industry were steadily influenced by Taiwan at a constant level. In particular, Taiwan, which swiftly accepted Japanese cultural production, paid consistent attention to small cultural products, props, decorative items, travel content, etc. and has been the subject of research and benchmarking for the Chinese cultural industry. Moreover, the Chinese cultural industry promoted development of nation-wide/regional projects. It can be seen that developing private competencies within the government's macroscopic guidelines led to the favorable development of the ecosystem of the cultural industry, and the expansion of project-style policy was proposed as the most efficient promotion strategy.

During the 11th FYP period, the keywords Enterprise, Beijing, Economy, Taiwan, Policy, Project, Market, Upgrade, Service, and Information showed a higher degree of centrality importance than frequency importance. Thus, the Chinese cultural industry appeared Beijing-, policy-, and project-centered and market-oriented from the very beginning. During the 12th FYP period, Hangzhou emerged as a new hub area, and words that signify the active marketization of the cultural industry (e.g., Animation, Exchange, Market, Finance, and Investment) can be found. Furthermore, words like Science, Tech, and Platform indicate that the

expansion of the cultural industry was a persistent concern, particularly in light of the influence of IT. During the 13th FYP, novel policies and marketization strategies appeared that exhibited slightly more detailed and pluralized words, such as Start-up, Education, and Industrial Park, which could show the emphasis laid on the importance of the industrial park promoted by the Chinese government and the cooperation model of industry, academia, and research being developed within it. Also, it can be seen that contents that not only highlight the economic feasibility of the cultural industry but also value experience and are human-oriented are gaining traction.

Conversely, the degrees of connection centrality in relation to strategy and characteristic words were found to be lower than the frequency importance for all periods. Instead of the government fostering the cultural industry by demonstrating policy leadership, little attention appeared to be paid to detailed strategies from the perspective of general discourse. In addition, although consistent efforts to develop unique and creative items and content were made, the strength of attention within the discourse was low. This indicates that cultural trends are not being led by certain ideas and contents but rather that the cultural industry is progressing with pluralized and wide-ranging topics. Specifically, although words such as Element, Library, Marketing, and History appeared often in the discourse on the Chinese cultural industry during the 11th and

12th FYP periods, the degrees of connection centrality of those actual words were low. Therefore, these words did not play a crucial role in the policy discourse in terms of their frequency of occurrence.

5.2. Network Analysis

Network analysis is useful for discovering meaning based on connected relationships between words indicated in the discourse. After clustering based on an analysis of the basic network among words, hub nodes and significant words are identified, and their implications are interpreted. We constructed a correlation matrix for each period using the top 50 degree-of-centrality words derived from text mining. Next, we visualized the basic network among words

and verified the significance of the data used in the analysis. We calculated the density of 5000 networks by rearranging words randomly using bootstrap and generating average bootstrap densities consisting of the calculated densities. The average bootstrap densities of the entire network data were 4.6985, 4.4914, and 8.9923 per period. The Z-score values were 2.7174, 3.2506, and 5.1142 per period, and the differences between the absolute and observed values were 0.013, 0.0032, and 0.0004, respectively, indicating that the relationship between the data was statistically significant at the 5% significance level. The statistical significance tests of the entire network data are presented in Table 2.

Table 2. Statistical significance test of network data (The authors)

Period	Hypothesis test on density		
	11th FYP	12th FYP	13th FYP
Number of bootstrap samples	5000	5000	5000
Estimated standard error in density	1.6653	1.3293	1.7173
Z-score	2.7174	3.2506	5.1142
Average bootstrap density	4.6985	4.4914	8.9923
Proportion of absolute differences as large as observed	0.013	0.0032	0.0004

Next, we conducted a CONCOR analysis on the network for each period. Per period, 7, 6, and 5 clusters were derived, with average degrees of 13.08, 19.04, and 39, respectively, and clustering coefficients of 10.452, 14.661, and 38.872. Here, the average degree indicates the power of the structural position nodes in the network. When this value is large, the words in the network have a practical influence as discourse (Hanneman & Riddle, 2005). The words in the 12th FYP have strong explanatory power as discourse in the 11th FYP, and the average degree formed at a very high level in the 13th FYP. This means that a stronger social discourse was formed as the cultural industry was renewed. In particular, during the 13th FYP period, a robust discourse network was established in conjunction with China's cultural powerhouse policy, accompanied by the rapid growth of the internet platform and the expansion of cultural content creation. The clustering coefficient is a measure of the degree to which nodes in a network are structurally equivalent and grouped together. When this index is high, large and strong groups form in the network; when it is relatively low, a pluralized group forms with weak cohesiveness. The increase in the clustering coefficient per period indicates that a large and influential group exists within the discourse network. Although the discourse on the Chinese cultural industry begins from various topics and sporadic discussions, it forms a trend along several axes that show comprehensive and massive directionality. In short, the early Chinese cultural industry was promoted in diverse and desultory forms (in relation to the reflection of regional characteristics), including economic feasibility, culturality, government-led, private-led, industry, benchmarking, and fusion with traditions. However, they are now converging into a macroscopic and unified

path, highlighted by the legalization of the government, pilot cities, the operation of designated industrial clusters, etc.

Next, it can be seen that the number of clusters per period is gradually decreasing from 7 to 6 and 5. The 11th FYP classified three relatively large clusters and four small-scale clusters. The nodes that act as major hubs in the three clusters were Research, Product Design, and Tourism, and the significant words were Tradition, Pattern Design, Paper Cutting, Museum, Strategy, Industry, and Enterprise (Figure 2). The relevant period related to the early stages of the cultural creative industry, in which the focus was relatively on creating economic feasibility for culture, combined with related research, product design, and tourism. Furthermore, this period focused on interpreting the unique Chinese cultural heritage (traditions, patterns, and papercutting) in a contemporary manner and enhancing its economic and industrial significance (e.g., through industries and enterprises). During the 12th FYP period, one large, four mid-sized, and one small cluster appeared. In the major clusters, hub nodes were Research, Product Design, Industry, and Space, and significant words were Product, Marketing, Brand, Strategy, Shanghai, Industrial Park, Platform, and Global (Figure 3). During this period, China's cultural industry discourse was not only more concrete than in the early stages but also was formed with a more active business orientation. Thus, it can be seen as a structure that produces goods, markets them, and creates brands to approach consumers with passion. Additionally, cultural art parks (e.g., Shanghai) and industrial complexes were built by grafting the notion of cultural creativity onto certain spaces. It can be seen that as the globalization of culture and online content distribution has become mainstream, various platforms are formed.

Finally, during the 13th FYP, one large cluster and four midsized clusters were found in the network. The major hub nodes connecting the interior and exterior of clusters were Research, Product, Chinese Style, Co-operation, and Fusion, and the significant words were Plan, Value, Platform, Digital, Human, and Start-up (Figure 4). The discourse regarding the Chinese cultural industry during this period has been one that has expanded beyond the pursuit of economic viability in the past. First, China endeavored to build a Chinese-style developmental model for the cultural industry over a period of nearly 10 years. The objective was to

facilitate the convergence and collaboration of various cultural content, arts, and industries, with a particular focus on the Chinese style. This approach aimed to enhance the value of the cultural industry. The significance of Eastern culture was not overlooked during the era of humanism despite the expansion of the cultural industry through various digital interactions. Further, the cultural industry actively pursued diverse startup activities because of the pluralization of developing items. The CONCOR analysis results are presented in Table 3.

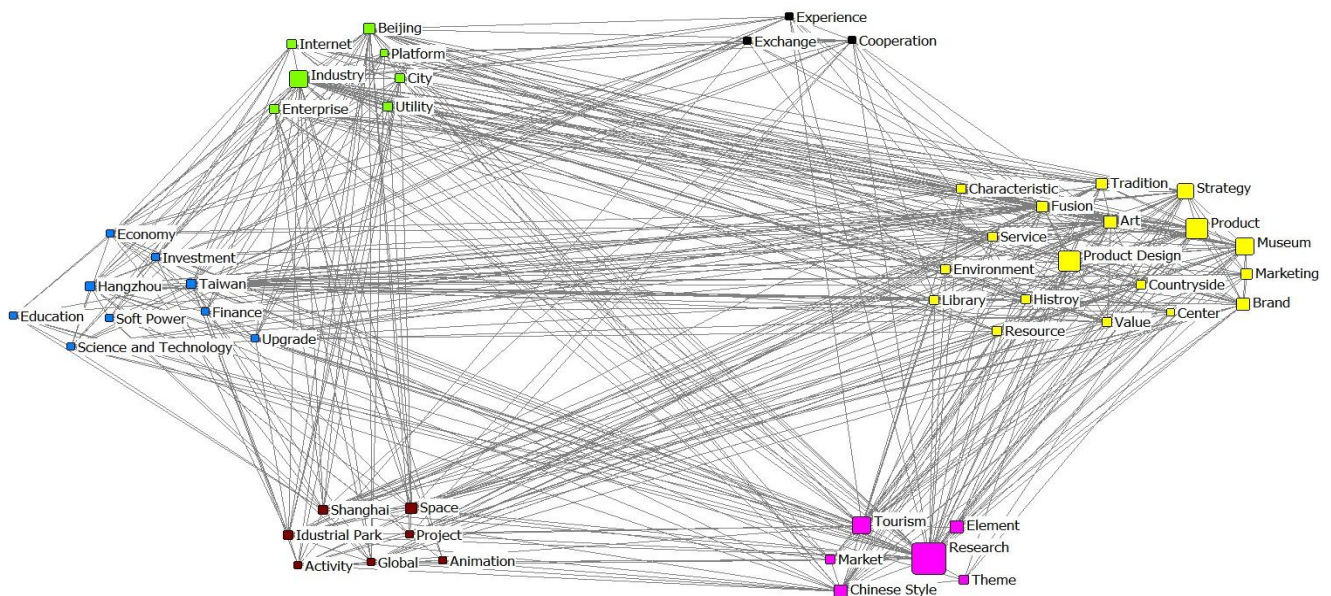


Figure 2. Results of the 11th FYP period CONCOR analysis (The authors)

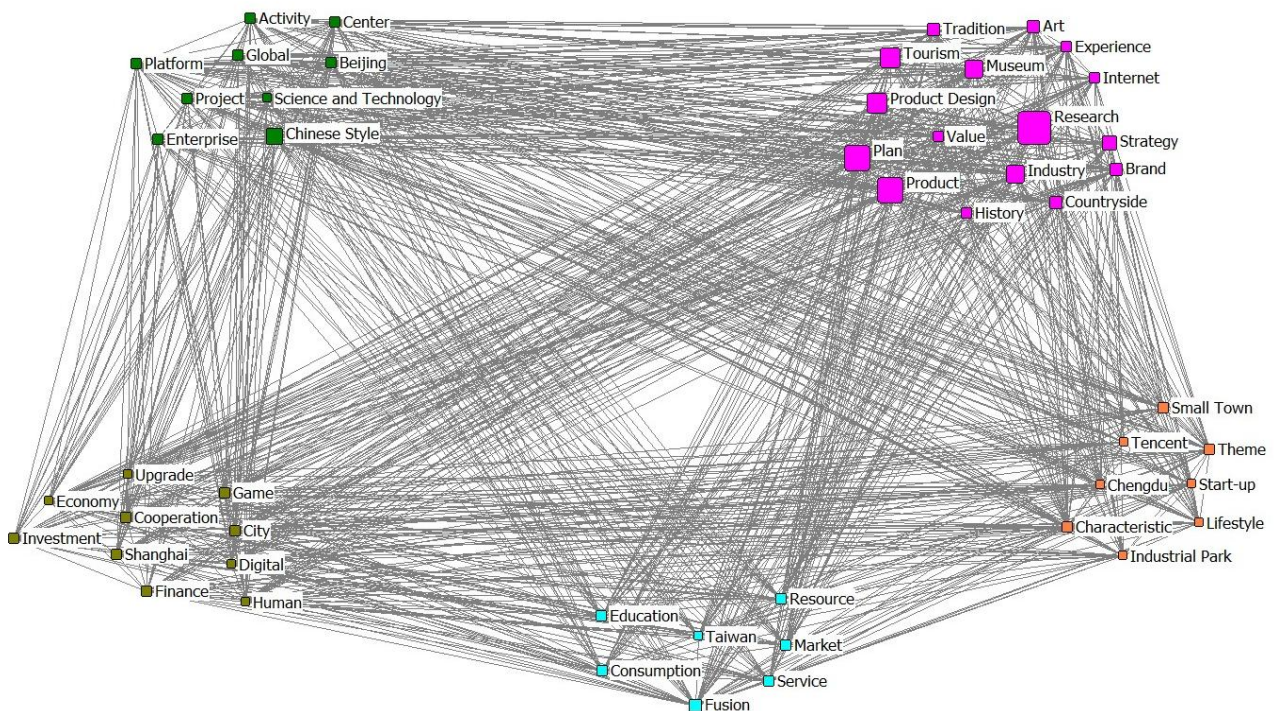


Figure 3. Results of the 12th FYP period CONCOR analysis (The authors)

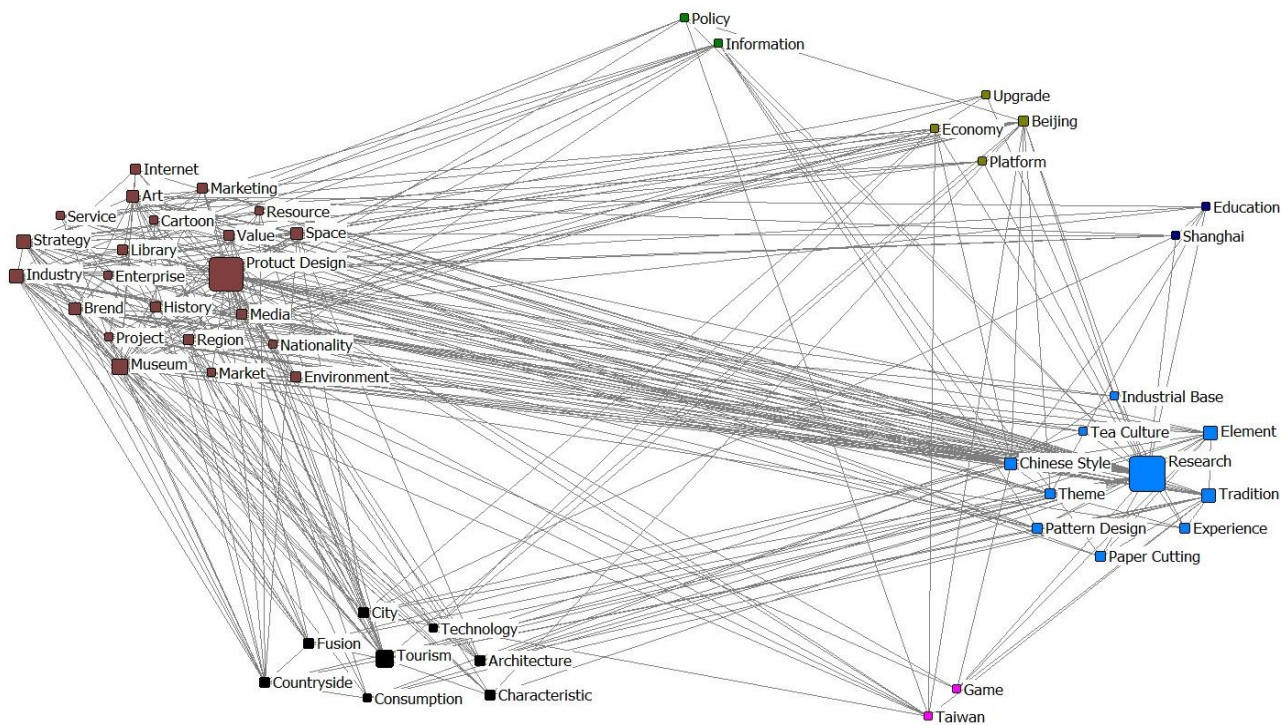


Figure 4. Results of the 13th FYP period CONCOR analysis (The authors)

Table 3. CONCOR results (The authors)

Subject words	Cultural Creative Policy, Cultural Creative Industry, Cultural Creativity, Cultural Industry, Cultural Policy		
Period	11th FYP	12th FYP	13th FYP
Number of clusters	7	6	5
Average degree	13.08	19.04	39
Overall clustering coefficient	10.452	14.661	38.872
Major hub nodes	Research, Product Design, Tourism	Research, Product Design, Industry, Space	Research, Product, Chinese Style, Cooperation, Fusion
Significant words in major clusters	Tradition, Pattern Design, Paper Cutting, Museum, Strategy, Industry, Enterprise	Product, Marketing, Brand, Strategy, Shanghai, Industrial Park, Platform, Global	Plan, Value, Platform, Digital, Human, Start-up

5.3. Core-Periphery Structure Analysis

A continuous core–periphery analysis was employed to examine the evolution of policy initiatives over time. This entailed identifying the nodes that assumed a leading role in shaping policy discourse related to the cultural industry over the course of each period. The top 2, 7, and 7 core nodes that displayed the highest correlation coefficient per period were recommended. When performing multidimensional scaling (MDS) analysis in two dimensions, using a matrix generated by the multiplication of each node's coreness scores, the node at the core of the network is positioned at the center of the graph, and a peripheral node is positioned on its outside. By this means, it can not only be distinguished whether the nodes are simply coreness nodes or peripheral nodes but also be observed whether they are located within the boundary line of the core or somewhere in the core and periphery along a continuous line. First, during the 11th FYP period, two keywords (Research and Product Design) were placed at the core of the network, and they played a key role in guiding the discourse. A change was made to the design area for various related studies and made-in-China products during the development phase, which involved the early stages of the cultural industry. During the 12th

FYP period, five additional keywords (Industry, Museum, Product, Strategy, and Tourism) were positioned at the core of the network and as leading the entire discourse, along with two keywords from the previous period. This period can be understood as uncovering various products that create economic value and promoting detailed related strategies as part of the full-fledged cultural industry that expanded across society. In particular, efforts to create added value for natural and cultural heritage, in which China already had independent competitiveness, such as museums and tourism, were the major recipients of the cultural industry trends of this period. Finally, during the 13th FYP period, the seven keywords Research, Museum, Tourism, Chinese Style, Brand, Fusion, and Plan were positioned at the core of the network. From this, it can be predicted that initiatives to make definite changes to lead the Chinese cultural industry will be reorganized around Chinese culture. This can be understood as involving the creative conversion of unique Chinese styles, fusing them with other items, and branding the resultant product to construct an ecosystem of a virtuous circle in the marketization of the cultural industry. Based on various types of research, unique Chinese cultural resources, such as tourism and

promoting approaches taken by China, and it has been seen in the expansion of the cultural industry discourse in the corporate and private sectors as well.

Second, as shown in the CONCOR analysis, keywords clustered with macroscopic directionality for each major topic in the policy discourse network related to the cultural industry. The early-stage cultural industry individually reflected and characterized China's diverse and complex cultural properties. In particular, the central government's policy will facilitate the growth of the cultural industry as a new economic growth engine. This will provide an impetus for local governments to commercialize the local cultural specificity, thereby enhancing market competitiveness for cultural products. Therefore, central, local, corporate, private, and other cultural entities promoted the cultural sector in an uncoordinated manner. However, these entities converged toward a unified direction and path by establishing a legal framework for the cultural industry, creating an experimental space for cultural innovation through the establishment of pilot cities, and fostering cultural startups through the use of cultural creative industrial parks and other means. In particular, the cultural industry produced tangible/intangible values simultaneously, combined with improved cultural consumption among citizens who enjoy culture.

Finally, the core keywords that led the policy discourse on the Chinese cultural industry in the different periods were examined using core-periphery analysis. The changes in the core keywords relate to industrialization based on research and product design while building a Chinese-style developmental model. The industrialization strategy aims to commercialize and contextualize the cultural diversity of China, while maintaining a uniquely Chinese identity. The goal is to create a brand that can be exported to the global market. Furthermore, the Chinese-style developmental model seeks points of contact where multiple cultural resources can easily be approached by the public; one representative example is the popularization strategy for cultural consumption based on urban museums and Chinese natural/humanities tourism. Beyond that, the Chinese cultural industry was promoted in fusion with diverse Chinese developmental plans (e.g., Made in China 2025, One Belt One Road, Internet + Policy, Mass Entrepreneurship and Innovation, and China Makers). Therefore, China is transitioning from an industrial economy to a more creative one by promoting the cultural sector. China's cultural industry is still relatively underdeveloped in comparison to other countries, yet it is gradually establishing a model for popularizing cultural archetypes and complementing the key competencies of the cultural industry through convergent advancement that is aligned with other national developmental strategies.

This study examined changes in the macroscopic trend of the Chinese cultural industry discourse from a time-series perspective through text mining and network analysis. Based on the aforementioned three major analysis outcomes, the Chinese cultural industry

showed an evolutionary form that fuses universality and disparate specificity, and it appeared that they were seeking industrialization and popularization while conserving and applying Chinese cultural archetypes. In addition, the macroscopic directionality is linked to a cultural powerhouse that exhibits various national developmental policies and induces policy promotion and social expansion. The future of the Chinese cultural industry requires policy promotions that complement key competencies to increase competitiveness and trigger synergies. As a major strategy task, there is a need to strengthen cooperation for the production of creative products, designs, and content production that can create new demands and strengthen internal/external cooperation in marketing that can respond to market globalization and mutual global cooperation for the protection of intellectual property rights.

6.4. Recommendations

In light of our findings, we propose three recommendations. Firstly, it is recommended that policy be strengthened. Policymakers should continue to promote the integration of regional and national strategies to ensure that local cultural characteristics are preserved while promoting a cohesive national cultural identity. The next is the promotion of industrial investment. Stakeholders should invest in digital platforms and technological innovations that improve the marketability and accessibility of cultural products. Lastly, there are suggestions for further research. Future research should include data from more diverse sources, such as social media platforms such as Sina Blog and WeChat, to capture a broader range of cultural discourse. Research should also consider the impact of recent growth policies, including those implemented in response to the COVID-19 pandemic. By addressing these recommendations, China's cultural industries can continue to develop while balancing economic growth with cultural preservation and innovation.

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