



# Expanding Boundaries of Macao's Cultural Industries Through Strategic Innovation

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**Abstract.** Macao government has committed to building a moderately diversified economic structure and a sustainable development pathway via strategic innovation to avoid overdependence on the gambling industry. Cultural industries are seen as a strong driver in achieving this goal because of their direct economic contribution and incidental effects on other industries. This paper analyzes Macao's cultural industries challenges in light of its recent developments. Furthermore, the paper proposes some reasonable and feasible suggestions for its innovative development from the perspective of internal innovation.

Most of the current studies focus on adopting "cultural industries +" model to achieve innovation, such as cultural Industries + tourism, cultural industries + finance, cultural industries + high technology, and so on, relatively few of them make profound study on the internal innovation of the cultural industries. Based on the theories of strategy and innovation, this paper suggests expanding boundaries of Macao's cultural industries through internal strategic innovation, which include expending industry classification standards, expanding the value chain, expanding the scope of regional cooperation.

**Keywords:** Strategic Internal Innovation, Cultural Industries, Macao

## 1 Introduction

Macao's cultural industry is small in scale. Its total value-added contribution to the economy in 2021 was \$2.15 billion, accounting for less than 1% of GDP. Nevertheless, in the same period the figure of mainland was 4.56%. Moreover, it is easy to see from figure 1 that the value added of Macao's cultural industries as a proportion of GDP is significantly more volatile than that of the mainland. The discrepancy is partly due to the inconsistency in the statistics of the two places, and partly reflects the insufficient development of the cultural industries in Macao. Macao's cultural industries needs to get rid of the effect of path dependence and emphasize not only on the integration with other industries, but also on its internal innovation<sup>[1]</sup>.

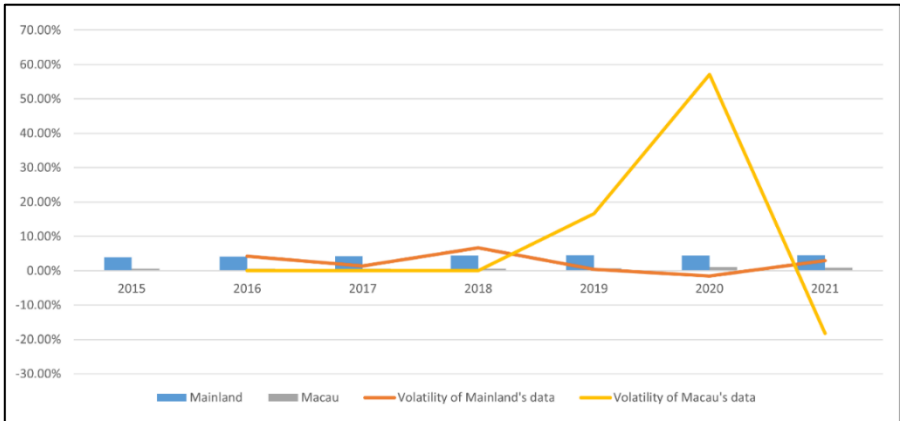


Fig. 1. Value added of cultural and related industries as a proportion of GDP

## 2 Expanding the classification criteria of cultural industries

To achieve further development, redefining the boundaries of the cultural industries is necessary. The Macao Statistics Institute classifies Macao's cultural industries into four sectors, which are creative design, cultural exhibitions, art collection and digital media. According to the statistics of 2021, the average growth rates of creative design and digital media sectors in Macao are 22.1% and 6.3% respectively. However, these sectors include traditional cultural industries such as architectural design, convention and exhibition, and cinema operation, as well as some new industries related to cutting-edge technology and innovative sales models. Due to the lack of sub-sectoral data, it may be difficult access to supportive policies, adequate capital, and industry experts for further development and innovation. On the contrary, the "Classification of Cultural and Related Industries (2018)" implemented in Mainland China divides the cultural industries into two major parts: core areas of culture and cultural related fields. These two sections are subdivided into 9 sub-categories, which are news information services, content creation and production, creative design services, cultural communication channels, cultural investment and operation, cultural entertainment and leisure services, cultural auxiliary production and intermediary services, and cultural equipment production. The overall industry classification is more refined and the data statistics are clearer. In addition, the National Bureau of Statistics of China (NBS) has been separately present the data of 16 industries with obvious characteristics of the new format each year starting from 2020 (National Cultural and Related Industries Report in 2019). Table 1 shows the differences between the classification standards for cultural industries in Macao and the Mainland.

**Table 1.** Comparison of Cultural Industries by Category

Macao	Mainland
<p><b>1.Creative design</b> Advertising; conference &amp; exhibition organizing services; Specialized design; Design to production/ distribution; Architectural design.</p> <p><b>2. Cultural exhibitions &amp; performances</b> Production of performing arts; Agency services of cultural exhibitions and performances; Performing arts training; Performing arts training; Operation of performing arts venue.</p> <p><b>3. Art collection</b> Creation, sale and auction of arts; Photography services.</p> <p><b>4. Digital media</b> Publishing; Information; Radio and television program production; Film production and distribution; Operation of cinema</p>	<p><b>1. Core area of Culture</b> News information service; Content creation and production; Creative design services; Cultural communication channels; Cultural investment and operation; Cultural entertainment and leisure services.</p> <p><b>2. Cultural related fields</b> Cultural auxiliary production and intermediary service; Cultural equipment production; Cultural consumption terminal production</p> <p><b>3. 16 industries with obvious characteristics of the new format</b> Radio and television integrated broadcast control; Internet search service; Other Internet information services; Digital publishing; Other cultural and art industries; Animation and game digital content services; Internet game services; Multimedia, game animation and digital publishing software development; Value-added telecommunication cultural services; Other cultural digital content services; Internet advertising service; Internet culture and entertainment platform; Copyright and culture software service; Intelligent UAV manufacturing for entertainment; Wearable intelligent cultural equipment manufacturing; Other intelligent cultural consumer equipment manufacturing.</p>

Separate listing of industries with obvious characteristics of the new format indicates that the relevant industries in the mainland are developing rapidly and have developed their unique characteristics. Moreover, the more detailed classification will enable the government, investors, industry professionals, and other industry-related stakeholders to obtain the real situation of new industries more feasibly and efficiently. According to the data from the National Bureau of Statistics, the average growth rates of those new industries are 22.4%, 32.9%, and 18.9% in 2019, 2020, and 2021 respectively. Although their growth rates fluctuate greatly due to the impact of the new crown epidemic, the overall growth rate is higher than the growth rate of other cultural industries in the same period, especially wearable intelligent cultural equipment manufacturing and Internet advertising service in 2020 and 2021, the average growth rate of 46.4% and 31.8%. This shows that the development of the 16 industries is strong and has a huge

pulling effects on the cultural industries<sup>[2]</sup>. The Document 32 issued by the General Office of Council in 2020 proposed to accelerate the development of new forms of business and new modes of consumption. New forms of consumption may include comprehensive "Internet +" services, "on-line" cultural and entertainment industry, digital resources exchange platform, smart tourism, high-tech video production, online fitness, and so on. Although Macao's cultural industries are different as them in mainland, more detailed classification standards may beneficial to industry innovation. Based on the existing industry structure and the global development trend of cultural industries, Macao could expand the industry boundaries and create more new business models for further growth.

### 3 Expanding the value chain of cultural industries

Traditional cultural industries innovation may be more focused on product and content innovation. Nevertheless, with the support of new infrastructures, more innovations can be developed according to the industrial value chain. The value chain analysis allows industry insiders to fully understand the value of each activity in the existing organization. As a kind of inclusive innovation, value chain innovation emphasizes the innovations within each division of a firm and within the each process of a supply chain <sup>[3]</sup>. The consciousness of innovation needs to permeate the entire value chain and create differentiation through value chain management to achieve multi-point and multi-faceted innovation (Porter, 1985). Innovation can be generated along all parts of the value chain. In addition, the complete reconstruction of the value chain is also a kind of innovation. With the support of information technology, the traditional value chain path order and links are broken. As show in the figure 2, manufacturing and sales are tightly linked together or even overlapped, and then result in a new industrial value chain. In order to explore the innovation path of Macao's cultural industry in the value chain, business model innovation, key resource management innovation and financing channel innovation will be analyzed in the following parts.

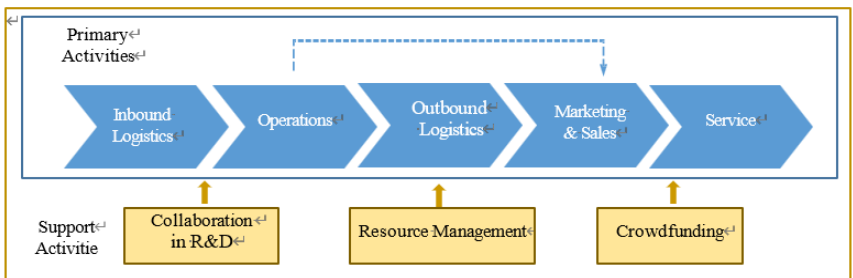


Fig. 2. Industry Value Chain (Self-drawn)

### 3.1 Innovation in business model

The epidemic has forced Macao's cultural and creative enterprises to accelerate the change of business model from physical store sales to online operation, though it has already been common in the mainland. Although such innovations happen passively, they do help companies reduce marketing costs and broaden sales channels.

In fact, the combination of O2O (Online to Offline) is the most basic business model transformation in Web 1.0. Unlike Web 1.0, where online promotion and sales of products were unidirectional, Web 2.0 emphasizes decentralized information sharing<sup>[4]</sup>. Enterprises need to pay more attention to user research, understand user needs, and interact with users, and thus they could provide consumers with right information at the right time<sup>[5]</sup>. The single-platform operation will be gradually replaced, and multi-platform or cross-platform cooperation to meet the needs of multiple groups will become the trend. Platform-based ecosystems can expand existing market boundaries and it is a more efficient way to innovate<sup>[6]</sup>. Based on some basic elements, different platforms adopt different methods to attract visitors and complete brand marketing. And thus, industry platforms can provide a range of framework structures and common resources needed to develop similar businesses, thereby lowering the barriers to innovation while ensuring the speed and efficiency of innovation. Industrial innovation platforms are open to attract a large number of "heterogeneous actors" to engage in complementary innovations and ultimately build a dynamic ecosystem of innovation<sup>[7]</sup>. Rapidly expanding the technology and strategy from an existing market to a completely different market, or even a different ecosystem, is the innovative envelope strategy, also known as holographic strategy. Therefore, the innovation of Macao's cultural industries could be building such kind of GPT platform on its own, or making necessary changes to quickly connect to the existing mature and open innovation platforms on the Mainland of China or in other countries, so as to provide effective support in terms of technology, manpower and equipment for the internal innovation of the industry. However, adapting to the web 2.0 business model is just the first step, Macao needs to look forward to web 3.0. Web 3.0 innovation might be built around improve user experiences and user participation, while also developing scientific methods to confirm ownership of new resource elements using blockchain technology. ChatGPT, a social media robot with the ability of information retrieval, has brought a new inspiration to the innovation of the business model of the cultural industries. It has presented artists, designers, writers, directors, and other creative individuals with unprecedented challenges. However, it may also allow more people to accomplish innovative work previously considered a high priority. Instead of criticizing, the cultural industries should be proactive in accepting the changes brought by high technology and adapting the innovative path of human-machine co-creation. To achieve innovation and advancement in business models, Macao cultural enterprises must prepare for radical changes now and make plans regarding corporate leadership philosophy, strategic planning, access to equipment and software, equity structure design, and distribution of operating profits.

### 3.2 Innovation in investment and financing

The innovation in investment and financing sources and mods is also an aspect that should not be overlooked in the development of Macao's cultural industries. Currently, the cultural industries in Macao mainly relies on the Cultural Development Fund for financing assistance. The actual interest-free loans provided to cultural enterprises in 2021 was MOP 4.9 million, which is expected to bring about MOP 30.76 million of social capital investment. The cultural industries are capital-intensive industries, and a large amount of creative and R&D work requires sufficient capital support. Due to limited funding sources and insufficient capital investment, the development of Macao's cultural industries is restricted. In addition, Macao's cultural industries also suffers from low overall profit margins and conservative financing mindset of enterprise owners<sup>[8]</sup>.

Digitalization and technological innovation have expanded the formats and models of the cultural industry, and also reshape the cultural and creative industries through innovative financing models and structures<sup>[9]</sup>. Along with the development of Internet finance, crowdfunding has emerged as a new financing model on the Internet. The basic model is that the initiator raises funds from internet users through the internet to support a specific project. It is particularly suitable for creative projects and knowledge-sharing projects as its low barriers to entry, abundant supply of capital, and simple procedure. The earliest fundraising platform is Kickstarter, established by electronic musician Perry Chen<sup>[10]</sup>. Although crowdfunding has many benefits and developing at a very fast pace in China, the number of crowdfunding platforms has been declining significantly in recent years due to the fact that many projects ended in failure and the lack of regulation. Besides crowdfunding, new financing mods also include NFT, incubator and accelerator financing, other collective investments, and digital financing that promotes new models of asset financing and token financing<sup>[11]</sup>. Although there are still many problems with the emerging investment and financing channels related to cultural industries, the innovation of them has long-term significance to the construction of modern cultural industries system<sup>[12]</sup>.

### 3.3 Innovation in production factors

The American economist Joseph Alois Schumpeter<sup>[13]</sup>, who first proposed "innovation theory", argued that innovation occurs when new factors and conditions are introduced into a production system to establish new production functions. A guideline on improving the market-based allocation mechanism for production factors was issued by State Council of PRC in 2020, and it explicitly encouraged all social forces to work together to construct a better market allocation and circulation mechanism that would stimulate creativity and market vitality for all of society. A cultural industry can only achieve transformation, upgrading, and innovative development when its elements are rationalized and allocated by market forces<sup>[14]</sup>.

### **3.3.1 Innovations in land resource utilization.**

Cultural industries should also pay attention to innovation in the use of land, which has always been an important factor in production. It is possible to greatly improve the efficiency of land production by fully utilizing land elements, innovative design, and spatial planning. Through creative transformation, ordinary farms, old factories, or alleys can become urban “utopias”, fashionable artist gathering places, or net-commercial streets with concentrated regional flavors. Taiwan's Qingjing Farm, Beijing's 798 Art Zone, and Shanghai's Tianzifang all show how successfully land could be renovated and utilized. While Macao has beaches, factories, streets, and modern cityscapes, they are smaller, fragmented, and designed primarily for tourists, without fully considering the importance of these land resources to the development of creative enterprises and cultural workers.

### **3.3.2 Innovations in human resource utilization.**

In the cultural industries, unique knowledge, creativity, experience, and expertise of human resources create the conditions for the growth of the industry<sup>[15]</sup>. Numerous studies have also demonstrated the role of talent clusters in supporting innovation. In the UK Research and Innovation (UKRI)'s 2022-2027 Five-Year Science and Innovation Strategy Report, one of the six strategies for creating a world-class innovative nation is attracting world-class talent. Macao's talent is endogenously insufficient and its reserve is relatively weak<sup>[16]</sup>. The cultural industries are highly knowledge-intensive industries, and their innovativeness are heavily affected by the quality of talent. To pursue innovative development in Macao's cultural industries could first improve the utilization rate of existing talent resources elements, fully respect the work and life needs of talents within the existing industry, and provide a variety of incentives for different positions to participate in innovation through salary, options, R&D start-up funds, and housing subsidies. Scholars have found equity incentives to positively influence the innovation performance of enterprise employees, as well as to motivate managers to implement innovation policies<sup>[17]</sup>. It is also possible for Macao's cultural industries to connect with universities in accordance with the current policy system, which will facilitate the transfer of talents from cultivation to utilization. Furthermore, Macao's cultural industry could benefit from internationalization and technological development. The superior geographical location of Macao makes it easier to attract international talents, and with the development of technology, artificial intelligence may become a non-human "talent" for Macao's cultural innovation, thereby alleviating the labor shortage problem in cultural enterprises.

### **3.3.3 Innovations in data resource utilization.**

As the fifth largest factor of production, data plays a crucial role in the development of the cultural industries. It is particularly difficult to manage data in the cultural industries, and innovations in data resources could be mainly seen from the following perspectives: the shift from manual collection to computer collection, the shift from centralized storage to distributed cloud storage; the shift from individual, enterprise, and organization possession to shareable and tradable applications<sup>[18]</sup>. Recent developments

in cultural data-sharing platforms and trading platforms have greatly enhanced the application scenarios and values of data elements, thus encouraging industrial development and enterprise innovation.

## 4 Expanding regional cooperation

Some scholars argue that different industries need different spatial locations, and the entertainment and media industry shows a stronger geographical clustering effect than other industries<sup>[19]</sup>. Cultural industries' geographical characteristics are also revealed by Chinese research<sup>[20]</sup>. Integrated development of regional cultural industries clusters might be the core of innovation in the future. As a part of the Greater Bay Area, Macao should leverage its strengths, strengthen regional links, and innovate ways to cooperate with Guangdong and Hong Kong enterprises. In addition, it also needs to develop a differentiated development path based on its highly developed service industries and high-quality practitioners.

## 5 Conclusion

In sum, Macao may create a basic platform for the cultural industries based on more accurate official classification standards. Collaboration and resource sharing between enterprises, capacity sharing, and multiplatform linkages can be used to overcome communication barriers. Integrating Various fields within the cultural industries, breaking down two-tiered management, and promoting efficient resource circulation within the spatial region are also essential for industrial innovation and fostering new growth points. Macao has experience organizing international sports events such as the Grand Prix and FIVB Volleyball Women's World Championship, as well as large-scale international exhibitions such as the Macao International Trade and Investment Fair and the Macao International Brand Chain Franchise Exhibition. Thus, it is possible for Macao to consciously combine special sports events or exhibitions with cultural and industrial activities in other fields such as film and television, photography, and tourism to create a cross-disciplinary cultural event. Additionally, it can contribute to the Greater Bay Area's market demand by integrating its own advantages with those of neighboring cities like Zhuhai, Shenzhen, and Guangzhou.

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