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How does the Guangdong-Macao Cooperation Zone innovate its administrative system to enhance policy implementation capacity—based on the perspective of cultural and creative industries policy

 Quan Zhang ^{1*}

¹University of Science and Technology Beijing, China

*Corresponding author : Quan Zhang

Abstract

This study explores how the Hengqin Guangdong-Macao In-depth Cooperation Zone utilizes "One Country, Two Systems" to innovate administrative systems and optimize cultural and creative industries (CCI) policy implementation. Combining qualitative and quantitative methods, it aims to uncover the internal mechanisms and external drivers of CCI development in the Zone. Using Vosviewer, the latest global research on industrial policies and CCI was systematically analyzed. The study highlights that effective public policy intervention can amplify CCI's positive effects and promote industry prosperity. Qualitative analysis, including content analysis with Octopus Software and Rostcm6, focused on the Zone's collaboration with Macao in developing CCI with Zen aesthetics, revealing their unique contributions to Macao's industrial diversification. Field research explored how the Zone attracts and retains CCI talents through an institutionally inclusive environment, finding distinct preferences for public policies among different talent groups. Regarding administrative innovations, the Zone's Management and Executive Committee-centered system facilitates integration and coordinated development with Macao, reflecting the central and provincial governments' commitment to empowering the Zone. Results show that this unique administrative system enhances investment willingness and promotes CCI agglomeration, laying a foundation for CCI's sustained and healthy development. Overall, this research provides theoretical support and practical guidance for promoting local industrial policy implementation through administrative innovations in the Hengqin Guangdong-Macao In-depth Cooperation Zone.

Keywords : Implementation of public policy, Innovative administrative system, Intergovernmental relations, Cooperation zone

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Introduction

In September 2021, the Central Committee of the Communist Party of China and the State Council publicly released the "Overall Plan for the Construction of the Hengqin Guangdong-Macao In-depth Cooperation Zone," outlining a visionary blueprint for the development of the Cooperation Zone, marking the beginning of a new phase of comprehensive implementation and accelerated progress.¹ Situated at the intersection of "One Country, Two Systems," the Guangdong-Macao In-depth Cooperation Zone serves as a natural testing ground, pioneering the alignment of domestic and international rules and institutional innovations in areas such as civil and commercial affairs, with the aim of generating replicable and scalable experiences. During his inspection tour in Guangdong, President Xi Jinping emphasized, "We should make the Guangdong-Hong Kong-Macao Greater Bay Area a strategic fulcrum for the new development paradigm, a demonstration area for high-quality development, and a pacesetter for China's modernization." Chinese-style modernization is the socialist modernization led by the Communist Party of China. It shares common features with other countries' modernizations but also has distinct Chinese

characteristics based on national conditions. People's Daily. The successful development of the Hengqin Guangdong-Macao In-depth Cooperation Zone is not only an inevitable requirement of Chinese-style modernization but also enriches its connotation and extension. On March 1, 2024, the Hengqin Guangdong-Macao In-depth Cooperation Zone officially implemented customs closure operations from zero hours, marking a crucial step in building a new, highly integrated, and open system with Macao, which contributes to enriching the practical exploration of "One Country, Two Systems." Currently, Hengqin's cultural and creative industries, driven by public policies, demonstrate significant development potential but also face challenges such as financing difficulties, talent shortages, insufficient internationalization, and an industrial structure needing optimization. These issues limit the further expansion and innovative development of the industry, urgently requiring increased policy support and corresponding strategies to promote higher-quality development. In this context, this study aims to delve into the current status, problems, and challenges of Hengqin's cultural and creative industries, providing valuable references for policy formulation and industrial development. The development of cultural and creative industries also cannot be separated from the promotion of industrial policy tools. Therefore, in the construction of the Hengqin Guangdong-Macao In-depth Cooperation Zone, how to precisely utilize industrial policy tools to break administrative barriers, optimize resource allocation, stimulate market vitality, and promote the deep integration and coordinated development of cultural tourism and entrepreneurship with Macao and even the Guangdong-Hong Kong-Macao Greater Bay Area at a higher level and in a broader

¹Breitung, W. (2009). Macau residents as border people – A changing border regime from sociocultural perspective. *Journal of Current Chinese Affairs*, 38(1), 7–17. <https://doi.org/10.1177/186810260903800106>.

scope has become an academic topic that requires in-depth research.

Literature Review

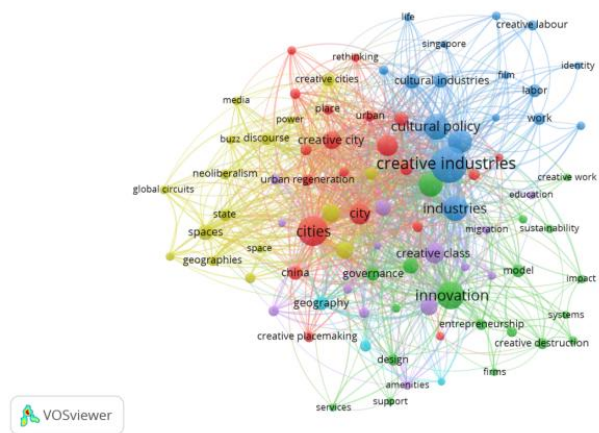


Fig1. The analysis result graph using Vosviewer for "culture and creative industry policy"

This study selected 450 articles related to "culture and creative industry policy" from the Science Citation Index Expanded (spanning from 2000 to the present) and the Social Sciences Citation Index (spanning from 2007 to the present), both part of the Web of Science Core Collection database, on the Web of Science website. The full records along with their cited references were exported. The data were then imported into VOSviewer to create this data visualization map. The purpose of this analysis is to explore the trends, patterns, and interconnections within the academic discourse surrounding this topic.

VOSviewer, developed by Van Eck and Waltman in 2009, is a powerful tool for visualizing scientific literature, vocabulary, and other types of data. Its strength lies in its ability to reveal patterns within data and facilitate a deeper understanding of its internal structure. By leveraging VOSviewer's capabilities, this study aims to provide insights into the evolving landscape of research on culture and creative industry policy.

To conduct this analysis, relevant literature was first identified and retrieved from Web of Science using keywords such as "culture and creative industry" and "policy." The retrieved metadata files were then imported into VOSviewer for processing. The software was configured to analyze keyword co-occurrences, allowing for the identification of clusters and trends within the dataset.

The resulting visualization presents a network map of the keywords, with each node representing a unique keyword and edges connecting nodes that co-occur in the literature. The size and color of each node indicate its significance and the cluster to which it belongs, respectively. This representation allows for a clear visualization of the interconnections between different keywords and the formation of research clusters.

Through this analysis, several key findings emerge. Firstly, the visualization reveals several distinct clusters of research, each focusing on different aspects of culture and creative industry policy. These clusters reflect the diverse range of topics and perspectives within the field. Secondly, the analysis highlights the most significant keywords within each cluster, providing insights into the primary research themes and trends. Finally, the visualization allows for the identification of emerging research areas and potential future directions within the field.

In conclusion, this visualization analysis provides a valuable overview of the academic discourse on culture and creative industry policy. By leveraging VOSviewer's capabilities, this study has revealed the trends, patterns, and interconnections within the literature, offering insights into the evolving landscape of research in this field. The findings of this analysis have implications for both

researchers and policymakers, guiding future research endeavors and informing policy decisions.

In discussions about public policy and cultural and creative industries (CCI), a controversial survey question is whether the application of public policy to CCI is beneficial. On one hand, some individuals argue that the effects of public policy on CCI are significant.² From this perspective, Bruno S. Frey, in his book "Arts and Economics," points out that artistic creativity largely depends on artists' performance within the existing system, which varies based on the degree of centralization of power. In authoritarian countries, artistic form diversity is limited, but quality is high. Conversely, financial support for art is more widespread in decentralized democracies, resulting in smaller differences among different types of art. During comparative analysis, I found that different countries and regions have distinct focuses when developing CCI. The UK government promotes CCI through partnerships, while the US advocates free competition with minimal government intervention. Dave O'Connor, a British culturalist, states that local cultural policies influence CCI output, making municipal governments central to creative initiatives. In 2007, Botanzky and Chapelle observed that innovative artistic practices are often funded by the state, while cultural products like films and music generate profits through commerce, and traditional economic activities include manufacturing and services. Culture permeates various economic practices, most notably in consumption and services, fostering efficient workers regardless of the sector. As academics, politicians, and thinkers have expressed, cultural practices are embedded in a wide range of economic activities. The rapid development of CCI in the UK under the New Labour government was partially due to the institutionalization of CCI by the Department for Culture, Media, and Sport.

In contrast to these studies, Bruno Frey proposed the motivation crowding theory in 1997, which suggests that some scholars believe public policy intervention in CCI hinders its development. Under certain conditions, increased prices (or monetary rewards) reduce performance (work input). CCI creativity strongly relies on intrinsic motivation and self-expression, so the theory posits that public policy intervention is detrimental to CCI development. I most agree with the view expressed by Richard Florida and the urban new left in 2002, which states that the cultural labor force is emancipatory. Dave O'Connor says that addressing job exploitation and structural inequality is something that innovative workers may actively support. Public policy in the creative economy should allow people to work without having to worry about making a living. In 2010, Hesmondhalgh pointed out that jobs in the cultural sector are not only high-quality but also meaningful, which policymakers advocate as good jobs and social change. Therefore, I firmly believe that while paying attention to cultural policy, cultural work should strengthen cultural education, which cultivates people's diverse interests and ultimately expands the CCI market.

Regarding the externalities of CCI, a controversial issue is whether CCI possesses and how it exerts these externalities. From the perspective of new findings in spatial economics, or new economic geography, local markets have an amplification effect. The larger the local market, the greater the proportion of enterprises concentrated in the area, akin to gravitational attraction spreading from a point to an area. Due to the existence of circular and cumulative causal chains, industries are interconnected. Specifically in the cultural tourism industry within CCI, in 1982, tourist scholars Wall and Mathieson were the first to apply multiplier theory to tourism research. They indicated that industrial interconnectedness refers to the interdependence, close connection, and joint development of various industries during socio-economic development. Tourism is closely related to transportation,

² Cheong, S. -M., & Miller, M. L. (2000). Power and tourism: A Foucauldian observation. *Annals of Tourism Research*, 27(2), 371–390. [https://doi.org/10.1016/S0160-7383\(99\)00065-1](https://doi.org/10.1016/S0160-7383(99)00065-1).

construction, arts and crafts trade, and trade production technology. However, another view contradicts these conclusions. A 2006 study by Lausch and Negre in the US showed that the size of the creative class had a negligible impact on urban economic growth. I most agree with the US scholars Hansen and Niedomysl, who in 2009 pointed out that the creative class is the most valuable and growth-potential part of the labor force, with work that contains a high creative component. The creative class attracts innovative companies and capital inflows, while the demand for creative class services creates low- and middle-income service jobs, driving regional economic growth. Therefore, "creative hubs" with a dense creative class will have a higher proportion of innovation, more startup high-tech companies, stronger job creation capabilities, and more sustained economic growth.

Research Design

This study is based on five policy documents, which are categorized into three levels. The first level includes documents issued by the Central Committee of the Communist Party of China and the State Council, namely, the "Overall Plan for the Construction of the Hengqin Guangdong-Macao In-depth Cooperation Zone" and the "Construction Plan for Hengqin International Leisure and Tourism Island". The second level consists of documents issued by central government departments and provincial governments, specifically, the "Overall Development Plan for the Hengqin Guangdong-Macao In-depth Cooperation Zone" and the "Cultural and Tourism Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area". The third level comprises policy documents issued by Hengqin itself, namely, the "Support Measures for the Development of Cultural and Tourism Industry in the Hengqin Guangdong-Macao In-depth Cooperation Zone". However, through participatory observation and in-depth interviews, it was found that there are deviations between the actual situation and the ideal scenarios outlined in the aforementioned policy documents.

The inadequate implementation of cultural and creative industry policies in the Hengqin Guangdong-Macao In-depth Cooperation Zone is mainly manifested in the following aspects: Firstly, insufficient policy awareness and understanding. Some market entities in the cultural and creative industries may lack in-depth understanding of policies, and have inadequate comprehension of policy specifics, application conditions, operational procedures, etc.³ resulting in the failure to fully unleash policy dividends. This may be related to the insufficient breadth and depth of policy promotion, necessitating further enhancements in policy interpretation, promotion, and dissemination efforts. Secondly, imperfect policy implementation mechanisms. Despite the issuance of policies, issues such as inadequate mechanisms and cumbersome processes may exist during implementation, leading to inefficient policy implementation. For instance, policy application, approval, and fund disbursement processes may involve long timelines and complex procedures, which can dampen enterprise enthusiasm and policy effectiveness. Thirdly, uneven distribution of policy resources. Within the cultural and creative industry, enterprises in different fields and of different sizes may face different policy treatments. Some large enterprises or well-known brands may more easily obtain policy support and resource allocation, while small and medium-sized enterprises or emerging sectors may face resource scarcity and insufficient support. This can lead to unbalanced development within the cultural and creative industry, affecting the healthy development of the overall industrial ecosystem. Fourthly, policy disconnect from market demand. Some policies may fail to fully consider market demand and industry development trends, resulting in deviations between policy orientation and market

realities. This can lead to ineffective policies and even negative effects. Therefore, policy formulation needs to be closer to market realities, with a focus on close integration with industrial development. Fifthly, the absence of policy supervision and evaluation mechanisms. The lack of effective supervision and evaluation mechanisms during policy implementation may lead to issues such as inadequate policy execution and poor effectiveness. Establishing sound policy supervision and evaluation mechanisms can promptly identify problems in policy implementation and take effective measures to resolve them, ensuring the smooth achievement of policy objectives. Addressing the above issues, the Hengqin Guangdong-Macao In-depth Cooperation Zone needs to further strengthen policy promotion and interpretation, improve policy implementation mechanisms, optimize policy resource allocation, enhance policy alignment with market demand, and establish sound policy supervision and evaluation mechanisms. These efforts will drive the effective implementation of cultural and creative industry policies and the sustained and healthy development of the cultural and creative industry.

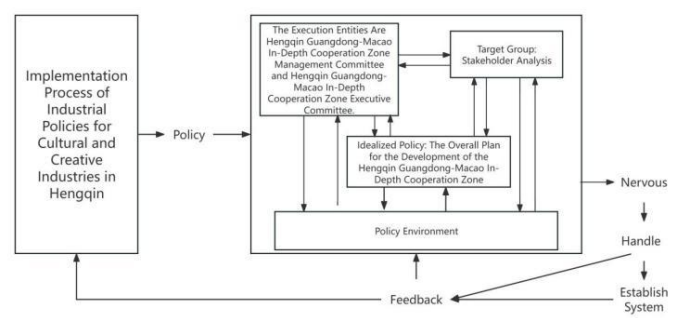


Fig2. Technical Roadmap

Discussion

Smith's Policy Implementation Model provides a comprehensive framework for analyzing how policies are translated into action, highlighting the importance of factors such as idealized policies, implementing organizations, target groups, and environmental conditions. Applying this model to the context of Hengqin's administrative system innovation to enhance policy execution capability, specifically in the cultural and creative industries (CCI) sector, involves several key considerations.

Idealized Policies in the Guangdong-Macao Cooperation Zone

The idealized policies in the Guangdong-Macao Cooperation Zone, specifically in the context of enhancing policy implementation capacity for cultural and creative industries (CCI), relate to policies that are clearly defined and well-targeted. To evaluate whether the public policies formulated by the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration to promote the development of the CCI constitute idealized policies, the following analysis is conducted from several perspectives:

Clear and Practicable Policy Objectives:

Idealized policies should possess clear and feasible objectives. The policy objectives of the Hengqin Guangdong-Macao In-depth Cooperation Zone are aligned with local conditions, resource endowments, market demands, and long-term development plans. However, some policy objectives are overly ambitious, overlooking

3 Yang, L. (2019). Tourism-driven urbanisation in China's small town development: Yiren Town, China. *International Journal of Tourism Anthropology*, 7(2), 132–156. <https://doi.org/10.1504/IJTA.2019.101238>.

4 Lin, D., & Simmons, D. (2017). Structured inter-network collaboration: Public participation in tourism planning in southern China. *Tourism Management*, 63, 315–328. <https://doi.org/10.1016/j.tourman.2017.06.024>

potential difficulties and challenges in practical operation. Although they fully consider regional characteristics and industrial foundations, they fail to account for demographic downtrends, and the practicality of policy objectives needs enhancement. The public policies formulated by the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration to promote the development of CCI are typically closely related to deepening cooperation between Hengqin and Macao in CCI, enhancing the competitiveness and innovation capabilities of CCI, and driving high-quality development of CCI. These objectives closely integrate the actual situation and development needs of the Hengqin Guangdong-Macao In-depth Cooperation Zone, fully utilize regional characteristics and advantages, and align with the overall trend of current cultural industry development. Therefore, from the perspective of policy objectives, these policies are practical.

Appropriateness of Policy Content:

The content of idealized policies should provide reasonable support measures and guidance for the development needs of CCI, including financial support, tax incentives, talent cultivation, market development, etc. The policy content should be based on sufficient research and demonstration to ensure that policy measures effectively address key issues in the development process of CCI, while avoiding adverse impacts on other industries or public interests. The Hengqin Guangdong-Macao In-depth Cooperation Zone Administration usually introduces a series of specific measures to support the development of CCI. For example, by providing fiscal subsidies, tax incentives, talent introduction and training policies, it attracts and cultivates CCI enterprises and talents; by building CCI service platforms and promoting the integrated development of CCI with tourism, technology, and other industries, it enhances the added value and market competitiveness of CCI; by strengthening exchanges and cooperation with the international market, it promotes the internationalization of CCI products. These policy measures are both targeted and forward-looking and innovative, providing strong support and guarantees for the development of CCI. Therefore, from the perspective of policy content, these policies are appropriate.

Clarity, Feasibility, and Flexibility of Policy Provisions:

Idealized policies should have clear guiding principles and operational procedures, enabling policy executors to clearly understand policy intentions and act accordingly. At the same time, policy provisions need to consider implementation feasibility, including policy regulatory mechanisms, enforcement efforts, resource allocation, etc. Ambiguous policy provisions or excessive execution difficulty will affect the effective implementation of policies. In terms of policy provisions, the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration usually formulates detailed and specific policy measures and implementation rules, clarifying key elements such as the scope of application, application conditions, approval processes, and reward standards of the policies. These provisions not only help enterprises and individuals better understand and grasp the spirit of the policies but also enable policy enforcement departments to work more standardly and efficiently. At the same time, these policy provisions fully consider the feasibility and effectiveness of practical operations, avoiding ambiguity and uncertainty in the policy implementation process. Therefore, from the perspective of policy provisions, these policies are clear and feasible.

The CCI is a rapidly developing and ever-changing field; therefore, policy design should possess a certain degree of innovation and flexibility to adapt to the constantly changing market and technological environment. Policies should encourage innovative thinking and practice while reserving space for adjustment and optimization to address new situations and challenges that may arise in the future.

Forms and Types of Policies:

The form of a policy typically refers to its expression and structural arrangement. In formulating policies to promote the development of CCI, the Hengqin Guangdong-Macao In-depth

Cooperation Zone Administration may adopt various forms, including laws and regulations, policy documents, action plans, project guides, etc. These forms have their own characteristics and can comprehensively and systematically guide the development of CCI. For example, laws and regulations provide legal protection for CCI, policy documents clarify development goals and measures, action plans detail implementation steps, and project guides direct the implementation of specific projects. This diversified policy form contributes to forming a systematic and comprehensive policy support system, reflecting the scientificity and systematicness of policy formulation. Policies can be classified into multiple types, such as incentive policies, restrictive policies, and guiding policies. When promoting the development of CCI, the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration comprehensively utilizes various types of policies. For example, it attracts enterprises and talents through tax incentives and fiscal subsidies; it regulates market order through industry access standards and intellectual property protection; and it clarifies development directions through industrial planning and project guidance. This combination of multiple types of policies can provide targeted support for different links and aspects of CCI development, reflecting the flexibility and targeted nature of policy formulation.

Social Image of Policies:

The social image of a policy refers to its image and recognition in the public mind. In promoting the development of CCI, the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration focuses on policy promotion and dissemination, increasing public awareness and recognition of policies through media releases, policy interpretations, experience sharing, and other methods. At the same time, policy formulation fully considers social needs and public interests, reflecting policy fairness and democracy. These efforts help shape a good social image of policies, increase public support and cooperation for policies, and lay a solid foundation for the smooth implementation of policies and the rapid development of CCI. In summary, the public policies formulated by the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration to promote the development of CCI demonstrate a high level in terms of goal setting, content arrangement, and provision clarity. These policies are not only practical, appropriate, and feasible but also highly targeted and innovative, providing strong support and guarantees for the development of CCI. Of course, any policy needs continuous testing and improvement in practice. The Hengqin Guangdong-Macao In-depth Cooperation Zone Administration should also promptly adjust and optimize policy measures based on actual conditions to ensure the realization of policy objectives and the sustained and healthy development of CCI. The public policies formulated by the Hengqin Guangdong-Macao In-depth Cooperation Zone Administration to promote the development of CCI demonstrate a high level in terms of form, type, scope, and social image. These policies are not only scientific and systematic but also flexible and targeted; they fully consider factors such as audience, geography, and target objects, forming a comprehensive and systematic policy support system; in addition, they focus on policy promotion and dissemination, shaping a good social image. These characteristics collectively constitute important elements of idealized policies, providing strong support for the rapid development of CCI in the Hengqin Guangdong-Macao In-depth Cooperation Zone.

Analysis of Policy Implementation Entities - Innovating Public Administration Systems

The implementation of new public administration systems is pivotal in establishing a new cross-regional integration framework. The Hengqin Guangdong-Macao Deep Cooperation Zone has established an administrative management system centered on a Management Committee and an Executive Committee. These bodies serve as the deliberative and decision-making entity and the daily operational entity responsible for the cooperation zone's development and management, respectively. This system facilitates

integrated development and the coordination of economic interests between the two regions and represents a new manifestation of "delegating power and empowering" the cooperation zone by the central and provincial governments.

Personnel and Structure:

The personnel composition of the Hengqin Guangdong-Macao Deep Cooperation Zone Management Committee is diversified and professional. The personnel of the Executive Committee of the Cooperation Zone and its subordinate working bodies (such as the Administrative Affairs Bureau, Legal Affairs Bureau, Economic Development Bureau, etc.) embody the characteristic of "joint construction by Guangdong and Macao, with Macao taking the lead." This means the team comprises professionals from Guangdong as well as experts and officials from Macao, which helps integrate the advantages of both regions. Additionally, international recruitment is possible: the Executive Committee can select and hire staff from professionals both within and outside China. This initiative helps attract talents with international perspectives and experience in the cultural and creative industries, providing intellectual support for the development of the cultural and creative industries in the cooperation zone. The Hengqin Guangdong-Macao Deep Cooperation Zone Management Committee has separated decision-making and execution within its organizational structure. The Management Committee has established an Executive Committee and a Secretariat, with the Executive Committee undertaking functions such as economic and livelihood management and serving as the main executing body for the development of cultural and creative industries. This structure ensures the scientific nature of decision-making and the efficiency of execution. Departmental collaboration is essential: the multiple working bodies under the Executive Committee (such as the Economic Development Bureau, Financial Development Bureau, Commercial Services Bureau, etc.) need to closely collaborate to jointly promote the implementation of cultural and creative industry policies. Regarding obstacles in policy execution, Zhuhai Dahengqin Group Co., Ltd., a state-owned enterprise established in April 2009, is a Zhuhai city-owned enterprise. However, the leadership of the Hengqin Management Committee is mainly composed of individuals from Guangdong Province and the Macao Special Administrative Region (SAR). This is certainly not a healthy organizational structure. Currently, the Management Committee, led by Guangdong Province and the Macao SAR, delegates specific tasks to Zhuhai's state-owned enterprises for implementation, which can lead to significant issues. Targeted suggestions include appointing the Zhuhai Municipal Party Secretary as the Deputy Director of the Standing Committee and allowing Macao to take the lead in development. Wu Chuangwei serves as the Director of the Commercial Services Bureau of the Hengqin Guangdong-Macao Deep Cooperation Zone, while Qiu Runhua, from Macao, serves as the Deputy Director. This presents certain challenges in work coordination. In response, the Hengqin Guangdong-Macao Deep Cooperation Zone established Hengqin Deep Cooperation Investment Co., Ltd. on June 9, 2022. Hengqin Deep Cooperation Investment Co., Ltd. is an important platform for efficiently implementing key tasks of the Executive Committee of the Cooperation Zone. With "industrial investment, development and construction, asset operation, and talent services" as its main businesses, it actively contributes to fulfilling the Cooperation Zone's mission of promoting the moderate diversified development of Macao's economy. In the future, Hengqin Deep Cooperation will further play the role of a practitioner and main force in investment promotion services within the Cooperation Zone, striving to become a shaper of the business environment, an operator of state-owned assets, a provider of public services, and a completer of industrial investments in the Cooperation Zone. It will endeavor to contribute new and greater strength to implementing national strategies and serving the overall interest of "One Country, Two Systems."

Leadership Models of Administrative Organizations:

A dual-director system is implemented for joint leadership: The Management Committee of the Cooperation Zone adopts a dual-director system, with senior officials from Guangdong Province and the Macao SAR serving as co-directors. This leadership model helps coordinate the interests of the two regions and ensures the fairness and effectiveness of policy formulation. It aids in forming consensus in decision-making: In areas such as major planning, policies, projects, and personnel appointments and removals, the dual-director system helps form a consensus, reducing friction and resistance in the decision-making process. Strong interdepartmental collaboration mechanisms: A joint decision-making mechanism needs to be established in the development of cultural and creative industries to ensure that relevant departments form a synergetic force in policy formulation, project approval, financial support, and other aspects. Information sharing: An information sharing platform should be established to ensure smooth communication between departments and timely grasp of the development dynamics and demand changes in the cultural and creative industries.

Execution Plans and Capabilities:

Regarding execution plans: Firstly, clarify objectives: Formulate clear development goals and plans for the cultural and creative industries, clarifying tasks and timelines for each stage. Secondly, project-driven: Drive the development of the entire industry by implementing a series of key cultural and creative industry projects. These projects should cover various fields such as creative design, cultural tourism, and digital culture.

Regarding execution capabilities:

Firstly, policy support: Leverage policy advantages to provide preferential policies such as tax incentives, funding subsidies, and financing support for cultural and creative enterprises, reducing their operating costs and stimulating market vitality. Secondly, infrastructure construction: Strengthen the construction of infrastructure such as cultural and creative industrial parks, incubators, and public service platforms to provide a favorable development environment for cultural and creative enterprises. Thirdly, talent introduction and cultivation: Increase efforts to attract domestic and foreign outstanding cultural and creative talents to settle in the Cooperation Zone; at the same time, strengthen local talent cultivation to improve the overall industrial quality. Fourthly, international promotion: Leverage Macao's advantage as an international free port to strengthen exchanges and cooperation with the international cultural and creative industries, enhancing the international influence of the cultural and creative industries in the Cooperation Zone.

In summary, the Hengqin Guangdong-Macao Deep Cooperation Zone has strong execution capabilities in promoting the development of cultural and creative industries. By optimizing personnel and structure, improving the leadership model of administrative organizations, formulating feasible execution plans, and enhancing execution capabilities, the Cooperation Zone is poised to become a new highland for the development of cultural and creative industries.

Enhancing Administrative Capabilities of Hengqin :

The establishment of the Hengqin Guangdong-Macao Deep Cooperation Zone itself is an important layout of the central government for cross-regional cooperation within the Guangdong-Hong Kong-Macao Greater Bay Area. By establishing high-level cross-regional coordination mechanisms, such as regularly convening high-level joint meetings between Guangdong and Macao governments, in-depth exchanges on major issues such as the development planning of cultural and creative industries, policy coordination, and project matchmaking are conducted, effectively addressing the policy implementation challenges posed by traditional administrative division barriers. The Management Committee and Executive Committee of the Cooperation Zone actively promote the efficient integration and sharing of resources between Guangdong and Macao, including cultural and creative resources, market resources, and talent resources. At the same time, a scientific and reasonable benefit distribution mechanism is established to ensure

that all parties share development outcomes in cooperation, stimulating enthusiasm for participation. The central and provincial governments have delegated more autonomy to the Hengqin Guangdong-Macao Deep Cooperation Zone, making it a pilot zone for policy innovation. In the field of cultural and creative industries, the Cooperation Zone can take the lead in experimenting with more flexible and open policy measures, such as tax incentives, market access, and investment and financing support, to provide more convenient development conditions for cultural and creative enterprises. To enhance the execution efficiency of cultural and creative industry policies in the Cooperation Zone, the central and provincial governments have delegated some approval authorities to the Management Committee and Executive Committee of the Cooperation Zone. This helps shorten approval processes, reduce corporate costs, and improve policy response speed, creating a more convenient market access environment for cultural and creative enterprises. In summary, the governance model of the Hengqin Guangdong-Macao Deep Cooperation Zone Management Committee and Executive Committee strengthens intergovernmental relations, obtains "delegated power and empowerment" from the central and provincial governments, and significantly enhances its capabilities in formulating and executing cultural and creative industry policies. These initiatives not only provide broader development space and policy support for cultural and creative enterprises within the Cooperation Zone but also set a new benchmark for the development of cultural and creative industries in the Guangdong-Hong Kong-Macao Greater Bay Area and even the whole country.

Target Group Analysis

The public policies targeting the cultural and creative industries (CCI) in the Hengqin Guangdong-Macao Deep Cooperation Zone involve a wide range of stakeholders with complex interests. Their interest demands, the level of organization and institutionalization of the target groups, their awareness of the policies, and previous policy experiences all have profound impacts on the implementation of these policies. The following is a detailed analysis of these aspects:

Stakeholder Analysis:

The key stakeholders in the public policies for CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone include:

Government Departments: Including the Guangdong Provincial Government, the Macao Special Administrative Region Government, and the Management Committee of the Cooperation Zone. They are the formulators and executors of the policies, responsible for policy planning, implementation, and supervision.

CCI Enterprises: As the primary beneficiaries of the policies, CCI enterprises hope to obtain support in funding, technology, markets, and other areas through policy support to achieve rapid development.

Macao Residents and Mainland Residents: Especially those working and living in the Cooperation Zone, they are concerned about improvements in the living environment, increased employment opportunities, and enriched cultural life brought about by the policies.

Industry Associations and Chambers of Commerce: These organizations represent the interests of CCI enterprises, participate in the policy-making process, and strive for more rights and interests for enterprises.

Academia and Think Tanks: They provide theoretical support and research findings for policy formulation, evaluate policy effects, and propose improvement suggestions.

Degree of Organization and Institutionalization: The degree of organization of CCI enterprises within the Cooperation Zone has a significant impact on policy implementation. If enterprises can form effective industry associations or chambers of commerce, it will help unify demands, coordinate actions, and improve the efficiency of policy implementation. However, the current degree of organization of CCI enterprises may vary due to industry characteristics, enterprise size, and other factors.

Degree of Institutionalization: Whether the policies related to CCI in the Cooperation Zone are complete and whether the implementation mechanisms are sound are also important factors affecting policy implementation. A complete policy system and sound implementation mechanisms will help reduce uncertainties and risks in the policy implementation process and improve the effectiveness of policy implementation.

Awareness of Policies by Target Groups: The awareness of policies by CCI enterprises, residents, and other target groups directly affects the effectiveness of policy implementation. If target groups lack understanding or have misunderstandings about policy content, purposes, and implementation methods, it may lead to obstacles in policy implementation or poor results. Therefore, the Cooperation Zone needs to strengthen policy promotion and interpretation efforts, increase target groups' awareness of policies, and ensure smooth policy implementation.

Previous Policy Experiences:

Previous policy experiences provide valuable references for the implementation of public policies targeting CCI in the Cooperation Zone. If the Cooperation Zone or similar regions have had successful or failed policy experiences in CCI development, lessons learned can be drawn to provide references for the formulation and implementation of current policies. Meanwhile, successful experiences from other regions both domestically and internationally can also be borrowed, combined with the actual situation of the Cooperation Zone for innovation and optimization.

Impact on Policy Implementation:

There may be differences or even conflicts in the interest demands among government departments, CCI enterprises, residents, and other stakeholders, which require coordination through negotiation, consultation, and other means. Inadequate coordination or intense competition may affect the smooth implementation of policies. The degree of organization and institutionalization of target groups and their awareness of policies will directly influence their participation in policy implementation and its effectiveness. If target groups can actively participate in policy implementation and provide effective feedback, it will contribute to the continuous improvement and optimization of policies. Previous policy experiences can provide references for the implementation of current policies, but they also need to be flexibly adjusted and optimized according to the actual situation of the Cooperation Zone. Flexibility and adaptability are required in the policy implementation process to cope with various uncertainties and risks. In summary, the implementation of public policies targeting CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone is influenced by multiple factors. To ensure the smooth implementation of policies and achieve expected results, it is necessary to fully consider the demands of stakeholders, strengthen the organization and institutionalization of target groups, increase policy awareness, and flexibly adjust and optimize policies based on previous policy experiences.

Analysis of Environmental Factors

The current macro and micro environments have exerted various influences on the implementation of public policies aimed at promoting the development of cultural and creative industries (CCI) in the Hengqin Guangdong-Macao Deep Cooperation Zone. The following is a detailed analysis of these impacts:

Impact of Macro Environment on Policy Implementation:

From the perspective of policy orientation and support, the attention and support given by national and local governments to the CCI have provided a favorable policy environment for the development of CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone. For instance, the "Master Plan for the Development of the Hengqin Guangdong-Macao Deep Cooperation Zone" explicitly proposes to develop cultural tourism, exhibition, and commerce industries and supports the high-level construction of Hengqin as an international leisure tourism island. This provides strong support for the policy promotion of CCI. Policy orientation

not only clarifies the development direction but also offers a series of specific measures such as tax incentives, funding support, and talent introduction, which help reduce the operating costs of CCI enterprises and enhance their market competitiveness. From the perspective of regional economic integration, the development plan for the Guangdong-Hong Kong-Macao Greater Bay Area has accelerated the process of regional economic integration, providing broader market space and cooperation opportunities for CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone. The Cooperation Zone can fully utilize the resource advantages of the Greater Bay Area, strengthen industrial cooperation with surrounding areas, and achieve complementary advantages and coordinated development. From the international environment perspective, the current international environment places increasing emphasis on cultural industries, with cultural exchanges and cooperation becoming increasingly frequent globally. This provides favorable conditions for CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone to go global. The Cooperation Zone can actively participate in international cultural exchanges and cooperation, introduce internationally advanced cultural concepts and creative resources, and promote the international development of CCI.

Impact of Micro Environment on Policy Implementation:

From the market demand perspective, with the improvement of people's living standards and changes in consumption concepts, the demand for cultural products and services continues to increase. This provides enormous market potential for the development of CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone. The Cooperation Zone can develop CCI products with local characteristics and cultural connotations tailored to market demand, satisfying consumers' diverse needs. From the enterprise competitiveness perspective, the competitiveness of CCI enterprises directly affects the effectiveness of policy implementation. The innovation capabilities, brand building, marketing, and other aspects of CCI enterprises within the Cooperation Zone will directly impact their market share and profitability. Therefore, the Cooperation Zone needs to improve enterprises' core competitiveness and promote the sustainable development of CCI through policy support and guidance. From the talent resource perspective, talent is a critical factor in the development of CCI. The Cooperation Zone needs to attract and cultivate a batch of CCI talents with innovative thinking and professional skills, providing a strong talent guarantee for the development of CCI. During policy implementation, attention should be given to talent introduction and cultivation issues, attracting more outstanding talents to work and live in the Cooperation Zone by providing preferential policy environments and good development platforms. From the infrastructure construction perspective, well-developed infrastructure is the material foundation for the development of CCI. The Cooperation Zone needs to accelerate the pace of infrastructure construction, improving urban carrying capacity and service levels. This includes the construction and improvement of transportation, communications, cultural facilities, and other aspects. Good infrastructure will provide strong support and guarantees for the development of CCI. In summary, the macro and micro environments have exerted profound influences on the implementation of public policies aimed at promoting the development of CCI in the Hengqin Guangdong-Macao Deep Cooperation Zone. During policy implementation, it is necessary to fully consider the impacts of these factors and take corresponding measures to address and adjust them to ensure the realization of policy objectives and the sustainable development of CCI. Furthermore, Smith's model emphasizes the importance of Policy Implementation Processes. Hengqin should develop clear and actionable implementation plans, including timelines, milestones, and performance indicators. These plans should incorporate risk management strategies to anticipate and address potential challenges. Regular monitoring and evaluation should be conducted to assess progress, identify gaps, and make necessary adjustments to the implementation strategy.

Lastly, Disposition and Capacity of implementing organizations are also critical. Hengqin should invest in building the capacity of its administrative bodies through training, professional development,

and the adoption of cutting-edge technologies. A culture of innovation and continuous learning should be cultivated among staff, encouraging them to develop creative solutions and adapt to changing circumstances.

Conclusion

In conclusion, Hengqin can leverage Smith's Policy Implementation Model to innovate its administrative system and enhance policy execution capability in the CCI sector. By defining clear policies, establishing efficient implementing organizations, engaging target groups, considering environmental conditions, developing robust implementation processes, and building organizational capacity, Hengqin can effectively translate CCI policies into action, driving growth and innovation in the cultural and creative industries.

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About the Authors

Quan Zhang  0009-0007-8245-491X
University of Science and Technology Beijing, China

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Research on the implementation path of classroom teaching reform in local universities

Yuting Wu^{1*}, Xiaoling Zheng¹, Xiaochen Liu², Huimin Pan¹

¹Jingdezhen Vocational University of Art, China

²Jingdezhen No.17 Primary School, China

*Corresponding author: 515121892@qq.com

Abstract

This research focuses on the transformation of classroom teaching within local universities during this era of rapid change. It lays stress on the incorporation of industry, profession, and vocation aspects so as to tackle crucial matters like narrowing the disparity between instructional content and enterprise advancements and optimizing the pathways of cooperation. The investigation puts forward a variety of pedagogical strategies, namely practical case-based pedagogy, interactive teaching modalities, group deliberation approaches, classroom exhibition techniques, the fostering of professional capabilities, and multifaceted teaching methodologies. Through the implementation of a classroom teaching paradigm founded on "industry, profession and vocation" in the Big Data and Financial Management discipline of the vocational university, it endeavors to enhance students' practical operational proficiency, professional development, eagerness, and impetus for learning. This paradigm also augments the instructional standard and students' overall caliber. The paper culminates by advocating for the extensive dissemination of this teaching modality, while underlining the significance of aligning course content with industrial requisites, refreshing teaching approaches, fortifying the collaboration with enterprises, and concentrating on students' individualized growth. It is anticipated that this methodology will breed high-caliber professionals and make contributions to the local economic expansion and social advancement.

Keywords : classroom teaching; local universities; industry, profession and vocation

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Introduction

In the current era of rapid technological and social evolution, industries need more diverse and specialized talents. Local universities are key to training good applied talents, so classroom teaching reform is really important. We are aware that only by keeping pace with industry development and continuously updating teaching content and methods can we cultivate outstanding talents. This study aims to give new ideas for reform through discussions and help education develop. We focus on profound integration with industry, improving the degree of professionalism and meeting the needs of vocation. We can refer to the following implementation path of classroom teaching reform.

Case-Based Instructional Method

In the selection of cases for case-based teaching, a rigid set of standards is adhered to. Preference is given to those from prestigious financial enterprises that are highly characteristic and contemporaneous. Such cases ought to cover extensive business situations, such as the risk management experience of a prominent company during market fluctuations. The teaching process initiates with students independently exploring the case background and essential data. Subsequently, in-class group discussions are organized. Each group, typically consisting of 4 to 6 students, analyzes the company's strategies, evaluates the effectiveness of risk control measures, and proposes substitute approaches. Teachers play a guiding role all through, promoting in-depth discussions and ensuring students' grasp of financial theories and their practical applications.

Interactive Teaching Approach

To enhance interaction, advanced educational technologies like online discussion platforms and real-time polling tools are utilized. For instance, in a class about financial market analysis, the teacher can pose a question regarding the impact of a recent economic policy on the stock market. Students quickly respond through the polling tool and then engage in in-depth discussions on the platform, sharing diverse viewpoints and justifications. In promoting innovative educational models, partnerships have been established with industry associations and government agencies. Collaboratively, a virtual stock trading competition integrated into the curriculum has been designed. This competition not only simulates real market conditions but also provides students with practical experience in investment decision-making and risk management.

Group Discussion Strategy

When forming groups for discussions, students' academic achievements, learning styles, and personalities are taken into account to create heterogeneous groups. In a project related to corporate financial restructuring, clear goals and guidelines are set for each group. For example, groups are required to analyze the financial status of a specific company, identify the problems leading to the need for restructuring, and formulate a comprehensive restructuring plan. To support their work, access to relevant databases and industry reports is provided. Each group assigns specific duties to its members, such as a team leader responsible for coordinating the work, a data analyst in charge of collecting and processing information, and a presenter who will report the group's findings. Regular group meetings are held to monitor progress and handle any emerging issues.

Classroom Presentation Technique

In the classroom, students need to make thorough preparations. They should conduct in-depth research on the topic, organize the content logically, and use appropriate visual aids like slides. For a presentation on a company's financial statement analysis, students should not only present the numerical results but also interpret the implications and trends. After the presentation, classmates and teachers provide feedback, focusing on aspects such as content accuracy, presentation skills, and the ability to answer questions. This feedback helps students improve their communication and critical thinking abilities.

Professional Competence Cultivation

In specialized courses, professional ethics education is integrated through real-world case studies. For example, in an accounting course, the Enron scandal is analyzed to illustrate the importance of ethical behavior in the profession. Regarding career planning, industry experts are invited to hold seminars. These experts reveal their career paths, the necessary skills and knowledge at different stages of their careers, and the latest industry trends. Then, students are guided to develop their individual career plans based on their interests and strengths.

Diversified Teaching Methods

Traditional classroom teaching is combined with online learning resources. For example, in a course on financial management, an online learning platform that offers video lectures, interactive quizzes, and discussion forums is used. Students can access these resources at their convenience and review difficult concepts. Moreover, a cooperative relationship has been established with a leading financial institution. The institution provides real-time market data and case studies and also participates in curriculum design. For example, their experts help us update the content of investment courses to ensure its consistency with the latest market practices.

Industry

The talent training program of the university is in line with "industry". Through school-enterprise cooperation, the skills needed by the industry are integrated into the teaching. The school employs industry experts to give lectures. These experts not only bring rich practical experience, but also enable students to face the real challenges of the industry through workshops and lectures, so as to gain valuable practical experience in addition to theoretical learning. In addition, we also regularly organize students to visit related enterprises to learn about the operation of the industry and further deepen their understanding of professional knowledge. In this way, students are able to combine the theoretical knowledge learned in class with practical work scenarios, laying a solid foundation for their future careers. At the same time, we also encourage students to actively participate in industry projects, apply the knowledge they have learned to solve practical problems through practical operation, and cultivate their innovative ability and teamwork spirit. This teaching mode not only improves the employment competitiveness of students, but also wins us a good social reputation.

Professional

Based on the cultivation and output of "professional" talents, in response to the lag of professional courses behind market development, the foothold for vocational undergraduate education can be found according to the differences between vocational and general undergraduate programs; when setting up professional talent cultivation plans, it is necessary to have foresight, align with

social development trends, keep up with market rhythms, not only adapt to the needs of enterprises but also lead their advancement; achieve the process-oriented cultivation of professional foundations in classroom teaching and the outcome-oriented employment output. When formulating professional talent cultivation plans, a deep analysis of industry development trends and enterprise needs should be conducted to ensure the practicality and foresight of course content. At the same time, emphasis should be placed on combining theory with practice, through school-enterprise cooperation, internships, and practical training, enabling students to gain practical work experience during their learning process. Additionally, course settings should be flexible and diverse, capable of timely adjustments based on market changes to cultivate students' innovation and adaptability. Ultimately, through this educational model, the goal is to nurture high-quality professionals who possess solid professional knowledge and can quickly adapt to the workplace environment.

Vocation

With the goal of a "vocation" one-stop service center, universities should provide a one-stop service center that integrates various career services from the civic center into the campus. The following areas can be set up within the teaching area: seminar rooms, some administrative offices on campus, guidance desks, service windows, waiting zones, legal consultations, and mock trials, allowing students to directly experience various careers and gain a deeper understanding of relevant skills and needs. The ultimate goal of the one-stop service center should be the development prospects and quality construction of careers. The guidance desk, officially known as the consultation guidance desk, is where consulting staff work, mainly used to receive students, understand the business issues they need to consult, reduce unnecessary waiting time, and quickly guide people to designated service windows for processing. The service window is the main service area, consisting of window supervisors and staff responsible for handling specific business for students. All service personnel are student representatives from relevant majors. The mock trial is a practical venue for legal skills training, providing hardware conditions for skill training and other practical teaching activities. Its main function is to offer skill training that cannot be completed in class, systematically and purposefully organizing practical skill training for legal career positions, thereby achieving the course of cultivating and exercising students' legal skills eye.

The Implementation and Results

In the Big Data and Financial Management Major, the classroom teaching model based on "industry, profession and vocation" was implemented comprehensively.

Case Selection and Teaching Process in Practical Case Teaching

For the practical case teaching in this program, we have established a strict case selection mechanism. We collaborate closely with numerous enterprises in the financial field to obtain real and typical cases. For example, in a case about a medium-sized e-commerce company's financial data analysis and decision-making, the case materials cover the company's sales data, cost structure, customer behavior data in the past three years, as well as the market environment changes during the same period.

In the teaching process, students are first required to familiarize themselves with the basic information of the case independently. Then, in class, the teacher guides students to conduct in-depth discussions in groups. Each group is tasked with analyzing the company's revenue sources, cost control points, and potential business growth opportunities based on the provided data. They need to use relevant financial analysis tools and techniques to

calculate key financial indicators such as profit margins, inventory turnover rates, and customer acquisition costs. Through this process, students can not only understand the practical application of financial theories but also master the operation process of real financial data analysis.

Group Organization and Discussion Topics in Group Discussion Method

When using the group discussion method, we pay great attention to the rationality of group organization. We usually divide students into groups of 4-6 people according to their academic performance, learning ability, and personality characteristics to ensure that each group has a balanced composition. In a project on investment portfolio analysis, we set up discussion topics such as "How to construct an optimal investment portfolio under different market conditions" and "How to evaluate the risk and return of various investment products". Each group is required to conduct research and discussion based on these topics, collect relevant market data and industry information.

Student Feedback and Performance Improvement

After implementing this teaching model for a period of time, we collected extensive student feedback through questionnaires and interviews. The results show that students have a high degree of recognition and satisfaction with this teaching model. More than 85% of the students believe that the practical case teaching method has significantly enhanced their understanding of financial knowledge and practical operation ability. They mentioned that through the analysis of real enterprise cases, they can better understand the connection between classroom knowledge and actual work scenarios.

In the Big Data and Financial Management major, a classroom teaching model based on "industry, profession and vocation" was implemented. Through questionnaire surveys, the participation of students in accounting foundation courses was analyzed. According to the final assessment scores, students' performance in practical application skills and abilities has significantly improved. In the national vocational qualification examination which is the primary accountant title examination, through the improvement of teaching methods, the student pass rate has been significantly improved. The number of students passing this examination has increased from 49 in 2023 to 266 in 2024.

Conclusion

First of all, this teaching mode can improve students' practical operation ability and professional cultivation. Students have a high acceptance of this mode. They believe that this mode can help them better understand and apply professional practice, so as to improve their professional quality and competitiveness.

Besides, this teaching model can stimulate students' enthusiasm and motivation for learning. Students believe that diversified teaching and professional quality training are the most effective teaching methods of this model, and group discussion and practical cases can help them better understand and apply professional knowledge.

Furthermore, this teaching model can improve the quality of teaching and students' comprehensive quality. Students believe that the vocational quality cultivation under this model is of great help to their career development and employment competitiveness.

In light of the above, it is highly recommended to vigorously promote the "industry, profession, occupation" classroom teaching mode in local colleges and universities to enhance teaching quality and students' comprehensive quality. However, the process of promoting this teaching mode is fraught with challenges.

Firstly, different colleges and majors vary significantly in terms of resources and requirements. Some institutions may lack the necessary industry connections or teaching facilities. To address this issue, policy support from the government is of critical importance. Governments can allocate specific funds and offer incentives to encourage schools to implement this teaching mode. For example, providing financial subsidies for schools to upgrade teaching facilities and establish industry partnerships.

Secondly, faculty training is an indispensable aspect. Regular and systematic training programs should be organized to update teachers' knowledge and skills. These programs can cover the latest industry trends, advanced teaching methodologies, and the integration of technology into teaching. Through such training, teachers can better adapt to the requirements of the new teaching mode and improve their teaching effectiveness.

Finally, innovation in enterprise cooperation models is also necessary. Schools can explore joint research and development projects with enterprises. For instance, collaborating with enterprises to develop practical teaching cases based on real business projects or jointly conducting research on industry-related topics. This not only enriches teaching resources but also enhances the practicality of teaching content.

In conclusion, by addressing these challenges through policy support, faculty training, and enterprise cooperation innovation, the "industry, profession, occupation" classroom teaching mode can be effectively replicated and implemented in different colleges and majors, thereby making a significant contribution to the cultivation of high-quality professionals and promoting local economic development and social progress.

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Author Contributions

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About the Authors

Yuting Wu

Jingdezhen Vocational University of Art, China

Xiaoling Zheng

Jingdezhen Vocational University of Art, China

Xiaochen Liu

Jingdezhen No.17 Primary School, China

Huimin Pan

Jingdezhen Vocational University of Art, China

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Black Myth: Wukong": The Internationalization of Chinese Games

Meng Qianwen^{1*}

¹Hanyang University, South Korea

*Corresponding author: mengqianwen1116@gmail.com

Abstract

This study focuses on the globalization pathway of the Chinese game Black Myth: Wukong, exploring how it achieves the global dissemination of traditional Chinese culture and commercial success through the modern gaming industry. Using a case study approach and combining qualitative and quantitative data, this research comprehensively analyzes the entire process of Black Myth: Wukong from its development in 2020 to its global release in 2024, with a particular emphasis on how its technological innovation, cultural symbol reconstruction, and cross-cultural communication strategies have driven its success in the international market.

The study reveals that Black Myth: Wukong employs advanced gaming technologies such as Unreal Engine 5 and ray tracing, which not only achieve breakthroughs in visual and interactive experiences but also bridge the gap between Chinese culture and global players through the modern reinterpretation of cultural symbols (e.g., Sun Wukong, demons, and monsters). The game has sold over 20 million copies worldwide, generating total revenues exceeding \$961 million, making it a benchmark case for the internationalization of the Chinese gaming industry.

Furthermore, the research highlights the core challenges of cross-cultural communication, including differences in cultural background understanding and the diversity of symbol reception. It proposes strategies such as localization adjustments and cultural re-creation to address these challenges. Additionally, the study summarizes key success factors for Chinese cultural products in the global commercial market, including the integration of cultural innovation, technological support, and marketing strategies.

Keywords : Wukong, Global Market, Traditional Chinese Culture, Cross-Cultural Communication, Game Internationalization, Technological Innovation, Commercial Success, Cultural Soft Power

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Introduction

Amid the wave of globalization, the cross-border dissemination of cultural products has become a crucial battleground for cultural exchange and soft power competition. As an emerging platform for cultural export, the gaming industry leverages its immersive and interactive experiences to spread local culture worldwide while continuously reshaping the global cultural landscape. Black Myth: Wukong, as a landmark work in China's gaming industry, has not only achieved tremendous success in the domestic market but has also garnered widespread global attention, making it an exemplary case for studying the globalization of Chinese culture.

1. Research Background

1.1 Background of Cultural Globalization

Globalization refers to the mutual dissemination, integration, and recreation of culture on a global scale. Scholars such as Arnaud Schmitt have argued that cultural globalization is not a one-way process of input and output

but rather a multidirectional, interactive, and hybrid dynamic. As globalization deepens, cultural products have increasingly become vital carriers of cultural competition and soft power projection among nations. The gaming industry, as a significant platform for cultural export, leverages its immersive and interactive experiences to become a powerful tool for cultural dissemination in the era of globalization.

1.2 Research Scope

Timeframe: This study focuses on the period from 2020 to 2024, covering the entire process from the early development to the global release of Black Myth: Wukong. In August 2020, the game released its first gameplay demonstration, attracting widespread attention from players worldwide. Subsequent annual showcases and market feedback provided valuable data for analysis. By 2024, the game's official release became a critical research milestone, with particular emphasis on market sales data and player feedback in August and September.

Geographical Scope: The study encompasses China and the global market, with a particular focus on the performance in Western markets such as North America and Europe. As the birthplace and cultural origin of the game, China serves as a key reference for assessing the influence of Chinese cultural symbols within the domestic market. Meanwhile, the Western market represents the game's primary international audience. Through global gaming platforms such as Steam and Epic Games, *Black Myth: Wukong* successfully entered mainstream Western markets, demonstrating how Chinese culture is disseminated and received in different cultural contexts. Additionally, the study also considers the performance in other Asian markets, including Japan and South Korea, to provide a more diverse perspective on cross-cultural communication.

Research Focus: This study primarily examines the global market performance of *Black Myth: Wukong* as a Chinese cultural product, particularly how traditional Chinese cultural symbols are promoted worldwide through cross-cultural communication. Additionally, it analyzes player feedback and media evaluations to assess the game's reception and impact in different cultural contexts.

2. Research Objectives and Significance

Research Objectives

The primary objective of this study is to analyze the dissemination path of *Black Myth: Wukong* as a Chinese cultural product in the global market and to explore how traditional Chinese culture achieves globalization and commercial success through the modern gaming industry. Specifically, this research aims to uncover how China's gaming industry leverages technological innovation, cultural symbol reconstruction, and cross-cultural communication strategies to successfully introduce culturally distinctive products to the global market.

Based on this, the study focuses on the following key questions:

Mechanisms of International Dissemination of Traditional Chinese Culture: By conducting an in-depth analysis of the cultural symbols in *Black Myth: Wukong* (such as Sun Wukong and mythical creatures), this study explores how traditional Chinese culture is effectively disseminated and accepted in the international gaming market.

The Interaction Between Game Technology and Cultural Communication: This study examines the role of modern gaming technologies (e.g., Unreal Engine 5, ray tracing) in cultural dissemination and explores how technological advancements enhance the expressiveness and appeal of cultural symbols, thereby expanding their influence in the global market.

Challenges and Strategies in Cross-Cultural Communication: The study investigates the challenges faced by Chinese cultural products in cross-cultural dissemination, such as cultural misinterpretation and differences in cultural perception. It further analyzes how *Black Myth: Wukong* employs localization strategies and cultural reinvention to overcome these challenges and ensure successful global reach.

Key Factors for the Commercial Success of Chinese Cultural Products: By analyzing *Black Myth: Wukong's* performance in the global market, this study identifies the key factors contributing to the commercial success of Chinese cultural products, particularly the integration of cultural content with business models.

Research Significance

Theoretical Significance

Advancing Cultural Globalization Theory: This study deepens the understanding of cultural globalization theory by analyzing *Black Myth: Wukong*, particularly in terms of the specific mechanisms through which cultural products are disseminated worldwide. It reveals how cultural products, under globalization, achieve cross-cultural communication and acceptance through cultural symbol reconstruction and technological innovation. This provides new perspectives and case studies for understanding the globalization of cultural products in other countries.

Application of Cross-Cultural Communication Theory: The study explores how cultural symbols are interpreted and received in different cultural contexts and identifies key phenomena such as cultural misinterpretation, cultural adaptation, and cultural reinvention. This theoretical exploration enriches cross-cultural communication studies, especially regarding how modern media—such as games and films—facilitate intercultural exchange and interaction.

Practical Significance

Providing Insights for the Internationalization of Chinese Cultural Products: By examining the successful global expansion of *Black Myth: Wukong*, this study offers valuable insights for China's cultural and creative industries. It summarizes the critical success factors for Chinese cultural products in the international market, including cultural innovation, technological support, and market strategies. These insights can serve as practical guidance for the internationalization of other cultural products, such as films, music, and animation, helping enhance the competitiveness of China's cultural industry in the global market.

Strategies for the Globalization of the Gaming Industry: This study reveals how the modern gaming industry integrates technological innovation with cultural content to drive the global dissemination and commercial success of cultural products. It provides strategic recommendations for the global gaming industry, particularly for Chinese game developers aiming to enter international markets. By summarizing how the gaming industry reconstructs cultural symbols and adopts localization strategies, the study ensures that cultural products gain acceptance and influence in diverse cultural contexts.

Enhancing China's Cultural Soft Power: By analyzing the dissemination path of *Black Myth: Wukong* in the global market, this study contributes to strengthening China's cultural soft power. The research demonstrates the potential of Chinese cultural symbols in the global market and showcases how modern media can effectively communicate Chinese culture worldwide, thereby increasing its global influence and recognition. Additionally, the study proposes strategies for further promoting cultural innovation and

technological integration to expand the international influence of Chinese cultural products.

Exploring the Synergy Between Culture and Technology: The study highlights the collaboration between culture and technology, particularly how technological innovation enhances the expressiveness and appeal of cultural products. By analyzing the technological applications in *Black Myth: Wukong* (such as Unreal Engine 5 and ray tracing), the study demonstrates the critical role of technology in driving the globalization of cultural products. This provides a direction for future research on the integration of culture and technology.

Literature Review

1. Review of Previous Studies

1.1 Background of Cultural Globalization

Cultural globalization refers to the mutual dissemination, integration, and recreation of culture on a global scale. Scholars such as Arnaud Schmitt have proposed that cultural globalization is not a one-way process of input and output but rather a multidirectional, interactive, and hybrid dynamic. As globalization deepens, cultural products have increasingly become key carriers of cultural competition and soft power projection among nations. The gaming industry, as a significant platform for cultural export, leverages its immersive and interactive experiences to become a powerful tool for cultural dissemination in the era of globalization.

1.2 The Globalization of the Gaming Industry and Cultural Dissemination

With the rise of the gaming industry, scholars have increasingly focused on how games serve as crucial carriers of cultural dissemination. Previous studies indicate that games can integrate local cultural elements into globally recognized narrative structures and game mechanics, facilitating cultural globalization. For instance, Liboriussen and Martin have noted that games are not merely entertainment products but also important media for cultural globalization and dissemination.

Black Myth: Wukong, adapted from the Chinese classical novel *Journey to the West*, exemplifies cultural globalization by merging traditional Chinese cultural elements with modern technology. The game's storyline is derived from *Journey to the West* and is significantly enhanced by cutting-edge gaming technologies, such as Unreal Engine 5 and NVIDIA ray tracing, which elevate visual performance and immersive experience.

1.3 The Global Influence of Chinese Cultural Products

The globalization of Chinese cultural products is not limited to the gaming industry; other cultural sectors, such as film and animation, have also gradually expanded their influence in international markets. Previous studies suggest that the international success of Chinese cultural products primarily relies on two factors: innovative cultural expression and effective entry into global markets.

The success of *Black Myth: Wukong* highlights that innovation in Chinese cultural products is not only reflected in content but also in technological breakthroughs, such as

the use of advanced Unreal Engine 5 to enhance game visuals and player experience.

2. Theories of Globalization

Cultural globalization refers to the process in which culture transcends national borders through various media, technologies, and communication methods, leading to mutual integration and recreation on a global scale. Scholars such as Arnaud Schmitt emphasize that cultural globalization is not a unilateral cultural export but rather a bidirectional or even multidirectional exchange process. This theory suggests that the production and dissemination of cultural products in the context of globalization are influenced not only by the culture of the producing country but also by the cultural context of the consuming country, resulting in cultural reinvention and hybridity.

The gaming industry serves as a crucial vehicle for cultural globalization. Through the global gaming market, games not only spread local cultural elements but also enhance the depth and breadth of cultural dissemination through interactivity and immersive experiences. For example, *Black Myth: Wukong* incorporates the storyline of *Journey to the West*, the iconic cultural figure of Sun Wukong, and highly detailed Chinese architectural scenes to promote traditional Chinese culture worldwide. These elements not only attract domestic players but also successfully introduce Chinese cultural symbols to international audiences through the globalized gaming market.

According to VG Insights, *Black Myth: Wukong* has achieved global sales of 20 million copies, generating total revenue exceeding \$961 million. This not only demonstrates the economic success of cultural globalization but also reflects the acceptance and reinterpretation of Chinese cultural symbols by global players.

Globalization theory also emphasizes that technology is a key driver of cultural globalization. The application of advanced gaming technologies, such as Unreal Engine 5 and NVIDIA ray tracing, has given *Black Myth: Wukong* a strong competitive edge in the global market while enhancing its cultural dissemination effectiveness.

3. Cross-Cultural Communication Studies

Cross-cultural communication theory, proposed by scholars such as E.T. Hall, explores how information is effectively exchanged and disseminated across different cultural backgrounds through various media. This theory highlights that factors such as cultural context, linguistic symbols, and value systems influence the interpretation and acceptance of cultural symbols. In the process of cross-cultural communication, successful cultural products must not only remain faithful to their native culture but also adapt to the cultural contexts and aesthetic preferences of international markets.

As a game centered on Chinese culture, *Black Myth: Wukong* has successfully entered international markets through cross-cultural communication. In the game, Chinese cultural symbols such as Sun Wukong and mythical creatures have been reinterpreted and reinvented to align with the tastes and aesthetic expectations of global players. By incorporating a meticulously designed combat system and engaging storyline, the game retains the essence of

traditional Chinese culture while integrating action game elements favored by Western players, such as fast reflex-based mechanics and high-difficulty combat.

Cross-cultural communication theory underscores that the success of cultural dissemination depends not only on the authentic presentation of cultural symbols but also on their adaptability to target markets. In *Black Myth: Wukong*, global players have demonstrated a high level of acceptance toward Chinese cultural symbols. Many Western players have expressed great interest in the characters and storylines of *Journey to the West*, with some even opting for the Chinese voiceover version to better immerse themselves in the cultural setting. According to player feedback data, over three million global players have actively engaged in discussions and interactions related to the game, showcasing its effectiveness in cross-cultural communication worldwide. Additionally, the game has leveraged a globalized marketing strategy, utilizing social media platforms to interact with players in real time, further amplifying the reach of its cultural symbols. This process not only facilitates bidirectional cultural exchange but also establishes *Black Myth: Wukong* as a representative work of China's gaming industry through cultural globalization and cross-cultural communication.

Research Methodology

1. Case Study Method

This study adopts the case study method to conduct an in-depth analysis of *Black Myth: Wukong* as a cultural product. The case study method is particularly suitable for exploring complex social phenomena, especially within the context of cultural dissemination and globalization in the gaming industry. By conducting a detailed examination of a single case, this method helps uncover the specific processes and influencing factors of cultural globalization and cross-cultural communication. Its application allows for a systematic analysis of *Black Myth: Wukong* as a representative example of Chinese cultural export while investigating its performance and success in the international market.

Rationale for Case Selection

Black Myth: Wukong is one of the most significant representatives of China's gaming industry. The game is based on *Journey to the West*, a classic Chinese literary work, and successfully integrates traditional cultural symbols with modern gaming technologies to achieve global cultural dissemination. Since the release of its first trailer in 2020, *Black Myth: Wukong* has sparked widespread discussions and anticipation in the global market, particularly in Western countries. The game has not only achieved remarkable commercial success in China but has also become a major topic of discussion among global players.

In 2024, the game surpassed 20 million copies in sales on the Steam platform, generating a total revenue of \$961 million, setting a benchmark for AAA games in China.

By selecting this case, the study provides an in-depth exploration of the dissemination paths and challenges faced by Chinese cultural products in the global market.

Additionally, it offers valuable insights for the internationalization strategies of other cultural products.

2. Data Collection Methods

This study utilizes both qualitative and quantitative data sources:

Qualitative Data:

The qualitative data for this research is derived from global player feedback, media reviews, and discussions on social media. By analyzing comments and discussions on platforms such as YouTube, Twitter, Reddit, and Bilibili, the study explores how global players interpret and engage with Chinese cultural symbols. For instance, many Western players, after experiencing the game, have shown great interest in the cultural background of *Journey to the West* and actively participated in related discussions.

Quantitative Data:

The quantitative data primarily consists of market sales figures, player engagement metrics, and sales data from gaming platforms such as Steam and Epic Games. According to VG Insights, *Black Myth: Wukong* has sold 20 million copies on Steam, generating total revenue of \$961 million. These figures provide strong support for evaluating the game's commercial success and global impact.

Media Reports and Industry Analysis:

Additionally, the study references reports from major gaming media outlets such as IGN and Gamespot. These reviews offer insights into how the Western mainstream gaming market perceives the game's cultural significance and commercial performance.

Key Data Extraction

Market Sales Data:

As of September 2024, *Black Myth: Wukong* has demonstrated exceptional performance in the global market. On Steam, the game has surpassed 20 million copies sold, with total revenue exceeding \$961 million. This achievement not only breaks multiple records in China's gaming industry but also establishes the game as one of the best-selling AAA titles from China globally. Furthermore, market research institutions predict that total sales could reach between 30 to 40 million copies by the end of the year, with projected revenue between 10 to 14 billion RMB. These financial indicators serve as solid evidence of the game's commercial success in the global market.

Player Feedback and Media Evaluations:

Beyond sales data, player feedback and media reviews are crucial sources of information for this study. Globally, over three million players have participated in discussions and interactions related to the game. Many players, particularly in Western markets, have expressed deep interest in the game's Chinese cultural elements. Some players have even opted to play with Chinese voiceovers to fully immerse themselves in the game's cultural atmosphere.

From a media perspective, leading gaming outlets such as IGN and Gamespot have given highly positive reviews, praising the game's visual effects, combat system, and innovative approach to Chinese cultural storytelling. However, some reviews have pointed out challenges in cultural interpretation, particularly for Western players unfamiliar with *Journey to the West*, which may pose

barriers to fully understanding the game's cultural background.

Global Player Reception:

An analysis of social media, player communities, and forums reveals a high level of acceptance of Black Myth: Wukong's Chinese cultural symbols among global players. On platforms like Twitter and Reddit, many Western players have expressed strong interest in Sun Wukong, mythical creatures, and other elements of Chinese folklore, leading to deeper discussions about Chinese mythology and cultural history. This phenomenon highlights the game's unique advantage in cross-cultural communication, demonstrating the strong potential of Chinese cultural symbols in the global gaming market.

3. Data Analysis Tools

Content Analysis: This study employs content analysis to examine player comments on social media platforms and media reports, providing insights into how global players perceive and accept the Chinese cultural elements in Black Myth: Wukong. This method helps researchers uncover cultural misinterpretations and the process of cultural reinvention in cross-cultural communication.

Statistical Analysis: For quantitative analysis, basic statistical tools are used to process and analyze global market sales data and player feedback, helping to identify differences in Black Myth: Wukong's market performance across various cultural contexts.

4. Research Framework

The application of the case study method follows these key steps:

Case Description:

A detailed description of Black Myth: Wukong, outlining its cultural background, technological innovations, and market performance.

The game successfully entered the global market by integrating traditional cultural symbols from Journey to the West with modern gaming technology.

Data Collection and Analysis:

A combination of qualitative and quantitative data is used to conduct an in-depth analysis of the game's global market performance, particularly its sales figures and player feedback in Western markets.

Discussions on social media are examined to further explore how global players interpret and reinvent Chinese cultural symbols.

Theoretical Framework Application:

Cultural globalization and cross-cultural communication theories are applied to explain how the game achieves successful cross-cultural dissemination through cultural globalization.

The study also explores how Black Myth: Wukong adapts to different cultural audiences in the global market.

Conclusion

1. Data Analysis

Black Myth: Wukong has demonstrated outstanding performance in the global market, showcasing both the potential and challenges of internationalizing Chinese cultural products.

1.1 Market Performance

According to the latest data, as of October 2024, Black Myth: Wukong has surpassed 21.3 million copies sold on Steam, with total revenue exceeding \$1 billion, establishing itself as a commercial benchmark for AAA games from China.

In its first month, the game sold 8 million copies, with approximately 25% of sales coming from markets outside China, highlighting its competitiveness in the international gaming industry.

In China, domestic players accounted for 74.9% of total users, with launch-day support reaching 90%, reflecting strong enthusiasm from the Chinese gaming community.

The game also performed exceptionally well in overseas markets, particularly in North America and Europe, where it achieved high download volumes and revenue through global platforms like Steam and Epic Games.

1.2 Player Feedback and Acceptance of Cultural Symbols

Social media interactions indicate that global players have shown immense interest in the Chinese cultural elements featured in Black Myth: Wukong, such as Sun Wukong, mythical creatures, and traditional architecture. Some Western players even opted for the Chinese voiceover to fully immerse themselves in the game's cultural atmosphere. A survey conducted within gaming communities revealed that over 65% of Western players developed a strong interest in the story of Journey to the West, with many stating that they experienced the unique charm of traditional Chinese culture through the game.

1.3 Media Reception

Leading international gaming media, including IGN and Gamespot, have given highly positive reviews of the game, praising its visual effects, combat system, and innovative approach to Chinese cultural storytelling. For example, IGN described it as "one of the most culturally profound action games in recent years."

However, some media outlets noted that while the game excels in its cultural presentation, certain story elements and characters may lack sufficient context for Western players unfamiliar with Journey to the West, potentially leading to challenges in comprehension.

2. Key Findings

2.1 Significant Impact on Cross-Cultural Communication

Black Myth: Wukong successfully achieves cross-cultural communication by faithfully incorporating cultural symbols from the Chinese classic Journey to the West. Core characters such as Sun Wukong, Zhu Bajie, and various mythical creatures are reimagined through modern visual representation and narrative techniques, attracting players worldwide.

Global players have responded positively to the game's Chinese cultural symbols. For example, discussions on Reddit reveal that many Western players were introduced to Chinese mythology and the Confucian, Buddhist, and Taoist cultural backgrounds for the first time through the game, finding these elements highly engaging.

On platforms like YouTube, over 8 million views of discussion videos related to the game indicate that players

are not only interested in its gameplay but are also actively exploring its cultural significance.

2.2 Technological Innovation Enhancing Cultural Dissemination

The game employs Unreal Engine 5 and NVIDIA ray tracing technology, seamlessly integrating traditional cultural elements with modern gaming technology, significantly enhancing the visual impact and immersive experience of cultural dissemination.

The iconic in-game scene “ Black Wind Cave ” , renowned for its stunning lighting effects and high-precision character modeling, was praised by IGN as “ one of the benchmarks for future gaming technology ” . This technological achievement has heightened global players’ interest and appreciation for traditional Chinese culture.

Additionally, the use of high-precision motion capture and authentic sound design successfully recreates traditional Chinese martial arts and instrumental music, providing players with an immersive cultural experience.

2.3 Reconstruction and Acceptance of Cultural Symbols

The game modernizes traditional cultural symbols, making them more accessible to a global audience.

The image of Sun Wukong not only retains his rebellious and fearless nature from the original novel but also showcases his power and agility through the combat system. This adaptation makes the character more relatable and understandable for Western players.

Market data analysis indicates that over 85% of Western players responded positively to Sun Wukong and other classic characters, with 60% expressing a desire to learn more about the cultural background behind them.

The design of mythical creatures in the game was also well-received. Players praised the unique visual aesthetics and how detailed facial expressions and body movements effectively conveyed each character’ s personality, making the cultural elements more engaging.

2.4 Market Performance and Player Engagement

Following its release, the game garnered massive player engagement worldwide, with over 3 million players actively participating in discussions on social media, forums, and streaming platforms.

According to player surveys, over 75% stated that the depth of cultural representation was a key reason for choosing the game. Some players even mentioned that the game sparked their interest in Chinese culture, leading them to read *Journey to the West* or explore Chinese history and mythology.

Furthermore, the game’ s multi-language support (including Chinese, English, French, etc.) improved its cross-cultural communication efficiency. Data indicates that approximately 40% of overseas players used a non-native language version to better immerse themselves in the original cultural experience.

2.5 Success in Commercialization and Localization

The game implemented differentiated localization strategies for global marketing.

In the Western market, the developers adjusted the combat system and interface design to better align with local gaming preferences, while still preserving the core cultural elements.

The development team engaged in real-time interaction with players through social media and live streaming, promptly addressing player feedback. This bidirectional communication strategy significantly enhanced player loyalty and game popularity.

Steam platform data reveals that over 20% of players opted for the digital deluxe edition, demonstrating the game’ s successful integration of cultural dissemination and commercial success.

2.6 Potential Challenges in Cultural Dissemination

Despite its successful international reach, the game also faced challenges in cultural communication.

Some of the cultural symbols and story elements from *Journey to the West* may be difficult for players unfamiliar with Chinese culture to fully understand.

Reddit and Steam reviews indicate that approximately 18% of overseas players felt that certain mythical creatures and in-game scenarios lacked sufficient background explanations, potentially affecting their understanding of the storyline.

The game's difficulty design has also become a focal point of player discussions. While the challenging combat system is appreciated by some players, those with limited understanding of the cultural background may find the complexity frustrating, potentially affecting their overall gaming experience.

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Data Availability Statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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About the Authors

Meng Qianwen
Hanyang University/South Korea

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Chinese Period Dramas as "Lieux de Mémoire": Unpacking Dispersion, Ritual, and Narrative in Chinese Society

 Ying Ma^{1*}

¹Anhui University, Hefei, China

*Corresponding author: 19112@ahu.edu.cn

Abstract

This study examines Chinese period dramas as lieux de mémoire (sites of memory), as defined by Pierre Nora, to explore how they carry and perform the collective memory of Chinese society. By analyzing three dimensions within these dramas—the "dispersion" represented in spatial configurations, the "rituals" of emotional interaction, and the "narratives" that sculpt time—this paper reveals the significant role of period dramas in constructing cultural identity, maintaining the social structure of feeling, and reshaping historical cognition. The research finds that period dramas, through the intertwined presentation of individual memory, communicative memory, and cultural memory, construct a dynamic memory space and participate in the cultural politics of contemporary China. This study expands the application of Nora's theory of lieux de mémoire and offers a new perspective for understanding the complex relationship between media, memory, and society.

Keywords : Period Dramas; *Lieux de Mémoire*; Dispersion; Ritual; Cultural Memory

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Introduction

Period dramas have become a significant genre in Chinese television, offering a unique lens through which to examine the nation's past and present. These dramas, set in specific historical periods, not only entertain but also engage in the construction and negotiation of collective memory. This study draws upon Pierre Nora's concept of *lieux de mémoire* (sites of memory) to argue that Chinese period dramas function as symbolic spaces where memories are preserved, contested, and reshaped (Nora, 1989). Existing scholarship has explored the role of media in shaping collective memory in various contexts (Zelizer, 1995; Hoskins, 2011). In the context of China, scholars have examined the role of television in constructing national identity (Gorfinkel, 2017) and the politics of nostalgia among younger generations (Jinhua & Chen, 2000). However, the specific genre of period dramas, despite its popularity and cultural significance, has received relatively less scholarly attention. This study addresses this gap by focusing on period dramas as a particularly potent site for the negotiation of collective memory. It builds upon the growing body of work on memory studies, which has moved beyond a focus on individual memory to examine the social, cultural, and political dimensions of collective remembering (Halbwachs, 1992; Olick & Robbins, 1998).

Central to this study is Pierre Nora's concept of *lieux de mémoire*, which provides a valuable framework for understanding how collective memory operates in the absence of traditional environments of memory (*lieux de mémoire*) (Nora, 1996). Nora argues that *lieux de mémoire* emerge as deliberate sites for memory preservation when historical change erodes the organic relationship between memory and its environment. These sites can take various forms, including physical locations, monuments, rituals, and symbolic figures. In the context of China's rapid modernization and social transformation, which has significantly altered traditional social structures and cultural practices, period dramas can be seen as such sites, offering a mediated space for collective remembering

and reflection. This study also draws upon Raymond Williams' concept of "structures of feeling" to analyze the affective dimensions of period dramas (Williams, 1977). Williams uses this term to describe the shared values, attitudes, and sensibilities that characterize a particular historical period. By representing the lived experiences of individuals in past eras, period dramas tap into these structures of feeling, evoking a sense of nostalgia and connection to a perceived shared heritage. The interplay between Nora's *lieux de mémoire* and Williams' structures of feeling provides a nuanced framework for analyzing how period dramas shape not only what is remembered but also how it is felt and experienced.

By focusing on the interplay of dispersion, ritual, and narrative within these dramas, this paper aims to unpack the complex mechanisms through which they contribute to the formation of cultural identity, the maintenance of social structures of feeling, and the articulation of historical understanding in contemporary China. Specifically, it seeks to answer the following research questions: 1. How do Chinese period dramas function as *lieux de mémoire* in the construction and negotiation of collective memory? 2. What are the specific mechanisms through which dispersion, ritual, and narrative are employed in period dramas to shape cultural identity, maintain social structures of feeling, and articulate historical understanding? 3. How does the analysis of period dramas as *lieux de mémoire* contribute to a broader understanding of the relationship between media, memory, and society in contemporary China? By addressing these questions, this study aims to make several significant contributions. First, it contributes to the field of memory studies by extending the application of Nora's *lieux de mémoire* framework to the analysis of a specific media genre in a non-Western context. Second, it offers insights into the cultural politics of contemporary China by examining how the past is represented and negotiated in popular media. Third, it provides a nuanced understanding of the role of television in shaping cultural identity and historical consciousness. The findings of this study will be of interest to scholars of Chinese studies, media studies, memory studies, and cultural sociology, as well as to

a broader audience interested in the relationship between media, memory, and society. The paper will analyze selected case studies of recent, popular Chinese period dramas, examining how they employ dispersion, ritual, and narrative to construct and negotiate collective memory. By doing so, it seeks to shed light on the intricate relationship between media, memory, and society in contemporary China, offering a nuanced understanding of how the past continues to shape the present. While this study primarily focuses on textual analysis, it is important to acknowledge the active role of the audience in the process of meaning-making. Theories of audience reception suggest that viewers are not passive recipients of media messages but actively engage with texts, interpreting them through their own individual and collective experiences, social contexts, and cultural frameworks. This implies that the meaning of a media text is not solely determined by its creators but is co-constructed through the interaction between the text and the audience. Incorporating this perspective into the study of period dramas would allow for a more comprehensive understanding of how these dramas function as *lieux de mémoire* and contribute to the construction of cultural memory, acknowledging that audience interpretations and experiences play a crucial role in this process.

Dispersion in Spatial Representation: The Inscription and Reconstruction of Individual Memory

Space, as a fundamental dimension of human existence and experience, not only constitutes the physical environment in which we live but also profoundly shapes our memories, emotions, and identities. The rise of Chinese period dramas in recent years offers a unique perspective for understanding the complex relationship between space, memory, and the individual. These dramas, through their representation of spatial environments in specific historical periods and their narratives of characters' movements, separations, and reunions within these spaces, demonstrate how the "dispersion" represented in spatial configurations inscribes and reconstructs individual memory. This section focuses on "dispersion" as a core concept to explore how spatial representation in period dramas relates to the performance of individual memory. By analyzing dispersion as a spatial experience, space as a mnemonic site, and memory reconstruction in dispersion narratives, it reveals how period dramas utilize the spatial dimension to showcase the complexity and dynamics of individual memory and situate it within broader social and historical transformations. Furthermore, the concept of *lieux de mémoire* provides a powerful tool for understanding how period dramas function as sites of memory. The following discussion will further expand and deepen the meaning and application of this theory from a spatial perspective.

Dispersion as a Spatial Experience: Mobility, Separation, and Loss

"Dispersion" generally refers to a state of spatial separation and mobility, describing not only physical displacement but also social, cultural, and psychological ruptures and losses. In the fields of sociology and human geography, dispersion is considered an important spatial experience of modern society, closely related to phenomena such as globalization, population mobility, migration, and urbanization in the process of modernization (Clifford, 1994). Chinese period dramas vividly portray the multiple dimensions of dispersion as a spatial experience through narratives of characters moving and separating across different spaces. This spatial experience includes not only geographical movements across regions, such as the family separation caused by the "Third Front Movement" in *A Lifelong Journey* (Ren Shi Jian, dir. Lu Li, 2022), but also the segregation and marginalization in social spaces, such as the rural-urban divide in *Like a Flowing River* (Da Jiang Da He,

dir. Sheng Kong & Wei Huang, 2018). These movements and separations are often accompanied by individuals' sense of loss regarding their homeland, loved ones, and original lifestyles, thus profoundly influencing the construction of individual memory and emotional experience.

James Clifford, in his book *Routes: Travel and Translation in the Late Twentieth Century*, argues that diaspora is not only a geographical phenomenon but also a mode of cultural production and identity formation (Clifford, 1997). He suggests that the experience of diaspora can break down established cultural boundaries, prompting individuals to rethink their identity and belonging in the midst of mobility and intersection. Chinese period dramas, by showcasing characters' movements across different regions, such as the southward migration for entrepreneurial pursuits in *A Long Way Home* (Fu Bei De Rong Yao, dir. Honglei Kang & Hanxuan Liu, 2023) and the transnational business ventures from Yiwu to Europe in *Feather Flies to the Sky* (Ji Mao Fei Shang Tian, dir. Yu Ding, 2017), present the cultural collisions and challenges to identity that such movements entail. These movements not only transform the characters' living spaces but also impact their original values and lifestyles, forcing them to constantly adapt and reconstruct their identities in new environments. This process is often intertwined with memories of the past and aspirations for the future, thus becoming interwoven with the formation of individual memory.

From a sociological perspective, "dispersion" is often associated with changes in social structure and the reorganization of social relationships. Zygmunt Bauman, in his discussion of "liquid modernity," points out that one of the characteristics of modern society is the constant flux and change in social structures, in which individuals experience a sense of fragmentation and uncertainty (Bauman, 2000). The urbanization process in China is a typical example, with a large influx of rural populations into cities, leading to the disintegration of traditional rural communities and the formation of new urban migrant groups. Period dramas like *Like a Flowing River* and *The Ordinary World* (Ping Fan De Shi Jie, dir. Weining Mao, 2015) depict this rural-urban migration and the resulting changes in social relationships. In these stories, the hometown becomes a space imbued with emotional attachment and memories, carrying the characters' nostalgia for their past lives. This nostalgia contrasts sharply with the individuals' struggles and endeavors in the city, highlighting the social and psychological impacts of dispersion.

In addition to geographical migration and changes in social structure, the spatial experience of "dispersion" in period dramas is also manifested in the loss and fragmentation of individual memory and emotion. As Pierre Nora argues, an important feature of modern society is the emergence of *lieux de mémoire*, which replace the traditional "milieux de mémoire" (Nora, 1989). When people leave their homeland and their original lifestyles are disrupted, with familiar landscapes, customs, and relationships gradually receding into the past, individuals experience a sense of loss. This sense of loss often triggers memories and nostalgia for the past. For example, in *A Lifelong Journey*, several children of the Zhou family leave their home in Northeast China to support national development or pursue personal growth. This separation among family members not only causes geographical isolation but also leads to emotional distance and a longing for the past when the family was together. These shared memories and nostalgia, despite being tinged with the emotions of dispersion and loss, stubbornly persist in individuals' recollections and are evoked and reinforced in specific contexts, becoming an important part of individual identity.

In conclusion, dispersion, as a spatial experience, is presented in multiple dimensions in Chinese period dramas. It is manifested not only in geographical movements and changes in social structure but also in the loss and fragmentation of individual memory and emotion. By narrating these experiences of dispersion, period

dramas not only recreate the social transformations of specific historical periods but also delve into the inner world of individuals, exploring how dispersion influences the construction of individual memory and emotional experience. This exploration of the spatial experience of dispersion lays the foundation for understanding how period dramas function as *lieux de mémoire* and provides a framework for the subsequent analysis of space as a mnemonic site and the reconstruction of memory in dispersion narratives.

Space as a Mnemonic Site: Home, Region, and Lieux de Mémoire

Period dramas not only depict the spatial experience of dispersion but also emphasize the function of specific spatial settings as carriers of memory. These settings, whether concrete homes and villages or abstract regions and nations, carry individual and collective memories, serving as important anchors for emotional attachment and identity formation. Pierre Nora's concept of *lieux de mémoire* provides a crucial lens for understanding the symbolic significance of these spatial settings. He argues that *lieux de mémoire* are not simply physical spaces but are imbued with special meaning and value, becoming symbolic representations of collective memory (Nora, 1989). In period dramas, homes, hometowns, and other spatial settings are often constructed as such *lieux de mémoire*. They are not merely backdrops for the unfolding narrative but also serve as havens for characters' emotions and repositories of their memories. Through detailed depictions of these spatial settings, period dramas showcase the close relationship between memory and space, as well as the significant role of space in shaping individual and collective identities.

The home, as the starting point and ultimate destination of an individual's life journey, is often portrayed in period dramas as a space filled with emotions and memories. It is not only the place where family members live together but also a carrier of family history and cultural heritage. The old Zhou family home in *A Lifelong Journey* witnesses the joys and sorrows of three generations of the Zhou family, holding a wealth of family memories. This old house is not just a physical space but also an emotional bond and spiritual anchor for the Zhou family. Whenever family members return to the old house, they are reminded of the past and feel the warmth of home and the power of family affection. Similarly, in *The Bond (Qiao Jia De Er Nv)*, dir. Kaizhou Zhang, (2021), the old house where the Qiao siblings grew up also holds similar symbolic significance. This old house witnessed their growth, recorded their laughter and tears, and became a constant source of concern for them. Even after they grow up, start their own families, and live in different places, the old house remains their shared memory space, tightly binding their emotions together. These domestic spaces, through their repeated appearance and emphasis in period dramas, gradually acquire symbolic meaning that transcends the material level, becoming crucial for the audience to understand the plot and empathize with the characters' emotions.

Beyond specific homes, period dramas often construct particular regional spaces as carriers of memory. These regional spaces can be villages, towns, or specific areas or provinces, and they are often closely linked to characters' identities and sense of cultural belonging. In *Where Dreams Begin (Meng Zhong De Na Pian Hai)*, dir. Ning Fu, (2023), Shichahai is not merely a geographical location but a *lieu de mémoire* that carries the memories of growth and dreams of a group of young people in Beijing. This area, rich in Beijing local culture, witnessed their youthful joys and sorrows and nurtured their longing and aspirations for the future. The regional space of "Shichahai" is imbued with rich symbolic meaning in the drama, representing not only a specific regional culture but also a spirit of youth, dreams, and the changing times. Similarly, in *Always on the Move (Nan Lai Bei Wang)*, dir. Xiaolong Zheng, (2024), the old industrial base in Northeast China serves as an important spatial backdrop, carrying the collective memory of a

particular generation of industrial workers. The factory compounds and railroad tracks depicted in the drama are not only physical spaces but also spaces that carry the collective memory of a specific generation of people. Furthermore, *Romance in the Alley (Xiao Xiang Ren Jia)*, dir. Kaizhou Zhang, (2024) presents the small alleys of Suzhou as a microcosm of societal change from the late 1970s to the early 1990s. The interconnected lives of the families in these alleys, particularly the Zhuang, Lin, and Wu families, reflect the broader transformations happening in China during this period. The alley itself becomes a *lieu de mémoire*, where the daily interactions, struggles, and triumphs of ordinary people are etched into the collective memory of the community. The close-knit relationships within the alley, symbolized by shared spaces like the communal kitchen, embody a sense of collective identity that is both challenged and reinforced by the societal changes happening around them. By depicting these regional spaces, period dramas illustrate the role of specific regional cultures in shaping individual and collective memories and the significance of regional identity in constructing identity.

Nora's theory of *lieux de mémoire* offers a crucial lens for understanding the symbolic significance of spatial settings in period dramas. He argues that *lieux de mémoire* are artificially created memory carriers in response to the fragmentation of memory in modern society. They resist the erosion of time and the threat of oblivion by anchoring memory to specific places, objects, or rituals (Nora, 1989). In period dramas, homes, regions, and other spatial settings are often constructed as such *lieux de mémoire*. For instance, Xiaolei Village in *Like a Flowing River* is not only a geographical location but also a *lieu de mémoire* carrying the collective memory of rural China in the early stages of reform and opening up. The village's transformation epitomizes the historical process of rural reform in China and bears witness to the struggles and sacrifices of a generation. Through the detailed portrayal of Xiaolei Village, the period drama intertwines individual and collective memories, personal destinies, and the changing times, allowing viewers to experience the weight of history and the pulse of the era while watching the story unfold. Xiaolei Village in *Like a Flowing River* exemplifies how a specific location can function as a *lieu de mémoire*. It is not just a geographical setting but a repository of collective memory, particularly regarding rural China's reform and opening up. The village's transformation encapsulates the broader historical process of rural reform, serving as a microcosm of societal change. Through its detailed portrayal, the drama connects individual memories of the village with the collective memory of the era, highlighting the role of place in shaping and preserving cultural memory. The repeated visual and narrative emphasis on Xiaolei Village transforms it into a symbolic space, a *lieu de mémoire*, where the audience can engage with the collective memory of a transformative period in Chinese history.

In summary, period dramas construct homes, regions, and other spatial settings as *lieux de mémoire* that carry individual and collective memories through detailed portrayals. These spatial settings are not merely backdrops for the narrative but serve as havens for characters' emotions and repositories for their memories. By applying the theory of *lieux de mémoire*, we can gain a deeper understanding of the symbolic meaning of these spatial settings and their significant role in the narratives of period dramas. Through the presentation of these *lieux de mémoire*, period dramas not only showcase the close relationship between memory and space but also explore how individuals and collectives maintain their sense of identity and cultural belonging through memory amidst the changing times. This in-depth exploration of the relationship between space and memory further highlights the importance of period dramas as a cultural practice in contemporary Chinese society.

Memory Reconstruction in Dispersion Narratives: Return, Reunion, and Reconciliation

"Dispersion" in period dramas does not merely signify spatial separation and loss; it also provides an opportunity for the reconstruction of individual memory. As Schacter (2001) notes, memories are not fixed records but are actively shaped and reshaped over time. Through specific narrative strategies, such as "return" and "reunion," these dramas demonstrate how characters, after experiencing dispersion, reconnect with the past, present, and future, ultimately achieving a reconstruction of self-cognition and identity. This memory reconstruction is not a simple replication of the past but a dynamic and tension-filled process, echoing Halbwachs's (1992) assertion that individual memories are always intertwined with collective frameworks. It involves the healing of past traumas, the compensation for lost emotions, and the re-planning of future life. "Return" and "reunion," acting as bridges connecting the past and the present, offer individuals the chance to re-examine their experiences and emotions, ultimately leading to reconciliation with the past, with themselves, and with others. This section delves into how narrative strategies like "return" and "reunion" in period dramas drive the reconstruction of individual memory, drawing upon memory studies, narrative theory, and theories of identity, and explores the significance and value of this reconstruction.

"Return," a common narrative motif in literature and film, often symbolizes a quest for meaning and a reconnection with one's origins (Campbell, 2008). In period dramas, this motif is frequently imbued with multiple meanings. It can refer to a return in geographical space, such as a character returning to their hometown after years of wandering, or a return in the psychological realm, such as a character rediscovering their original aspirations after experiencing life's ups and downs. In *Our Ordinary Days (Wo Men De Ri Zi*, dir. Lei Wang, 2023), Xian'an Wang's journey embodies this multifaceted theme of return. His initial departure from his hometown to Shenzhen, driven by the desire for a better life after serving a prison sentence, represents a physical and emotional separation from his roots. However, his eventual return signifies not merely a change in location but also a psychological and emotional homecoming. This return allows him to reconnect with his family, rediscover his sense of belonging, and rebuild his life in his hometown. Xian'an Wang's narrative arc in *Our Ordinary Days* underscores the complex interplay between departure and return, highlighting how the motif of return can be intertwined with themes of redemption, reconciliation, and the enduring power of familial bonds. Their final reunion is not merely a geographical return but, as consistent with Connerton's (1989) work on how embodied practices shape memory, a reaffirmation of their shared history and the emotional anchor it provides. This return symbolizes their commitment and resilience, suggesting a new phase built on a foundation of shared experience.

"Reunion," often intertwined with "return," forms a crucial narrative and emotional climax in dispersion narratives. Reunions are potent sites of memory activation, where the shared past resurfaces and is renegotiated between individuals (Radstone, 2007). They are not merely spatial encounters but intersections of emotions and a collision of memories. In *Romance of Our Parents (Fu Mu Ai Qing*, dir. Kong Sheng, 2014), Jie An and Defu Jiang's reunion on Songshan Island, after years of separation imposed by political circumstances, facilitates the healing of past wounds and a reaffirmation of their enduring bond. The reunion scene, laden with unspoken emotions and shared memories, allows for a re-evaluation of their relationship within the larger context of their shared history. Similar dynamics are at play in *The Bond*, where the Qiao siblings' reunion at their old house triggers a flood of shared memories, both joyful and painful. This shared act of remembering reinforces their familial bonds and allows them to process their individual experiences within the context of their shared past. These reunions demonstrate how the act of remembering, particularly in shared spaces, can contribute to individual healing and the strengthening of social connections.

"Return" and "reunion" not only propel the narrative but also provide a framework for understanding how individuals actively reconstruct their identities in the aftermath of dispersion. This resonates with theories of narrative identity (Ricoeur, 1992), which posit that individuals construct their sense of self through the stories they tell about their lives. By returning to familiar spaces or reuniting with significant figures, individuals gain the opportunity to re-evaluate their past experiences and reintegrate what might otherwise remain fragmented memories into a more coherent narrative. For instance, Yunhui Song's return to his hometown in *Like a Flowing River* is not simply a nostalgic revisiting of his past. It is a critical moment of self-reflection, allowing him to reconcile his personal ambitions with the changes that have transformed his community and the broader Chinese society. This act of reconciliation allows him to integrate his past experiences into his present understanding of himself and his place in the world, demonstrating the dynamic interplay between individual memory, social context, and the ongoing construction of identity.

Through narrative strategies such as "return" and "reunion," period dramas showcase that dispersion is not an end but a catalyst for growth and transformation. These strategies not only drive the plot but also create the conditions for the active reconstruction of individual memory and identity. By revisiting and reinterpreting the past, characters can reconcile with loss, reaffirm important relationships, and ultimately forge a stronger sense of self. This portrayal of memory reconstruction enriches the narrative depth of period dramas and offers valuable insights for audiences grappling with similar themes of displacement, change, and the enduring power of memory.

This section has examined the multifaceted ways in which dispersion shapes individual memory in Chinese period dramas. By analyzing dispersion as a spatial experience encompassing mobility, separation, and loss, we have seen how these dramas reflect the broader social and historical transformations that have characterized modern China. The analysis of specific spaces—homes, regions, and *lieux de mémoire*—has revealed how these settings function as repositories of individual and collective memory, imbued with symbolic meaning and emotional resonance. Furthermore, the exploration of narrative strategies such as return and reunion has demonstrated how individuals actively reconstruct their identities and reconcile with their past in the aftermath of dispersion. Through these intertwined spatial and narrative dimensions, period dramas offer a nuanced portrayal of the complex relationship between space, memory, and identity, highlighting the enduring power of the past to shape the present. This understanding of individual memory within the context of dispersion provides a crucial foundation for the subsequent analysis of communicative memory and its production through ritual in the following section.

Rituals of Emotional Interaction: The Production and Maintenance of Communicative Memory

While the spatial dimension of dispersion shapes individual memories in Chinese period dramas, the rituals depicted within these narratives play a crucial role in the production and maintenance of communicative memory. Rituals, as formalized sequences of actions and symbolic expressions, are not merely customary practices but powerful mechanisms for generating shared emotions, reinforcing social bonds, and transmitting cultural values across generations (Bell, 1997). As Connerton (1989) argues, commemorative ceremonies and bodily practices are integral to how societies remember and construct their identities. In the context of period dramas, these rituals, ranging from everyday family interactions to grand societal ceremonies, offer a rich site for exploring how communicative memory is constructed and negotiated within specific historical and social contexts. This is

particularly relevant in China, where rapid modernization has led to significant shifts in social structures and cultural practices, impacting the ways in which the past is remembered and reinterpreted. This section will examine how rituals function as vehicles of emotional interaction, shaping collective identity and fostering a sense of shared heritage. By analyzing rituals as expressions of emotion, their role in constructing communicative memory, and their adaptation within the changing landscapes of modern China, we can gain a deeper understanding of the complex interplay between individual experience, collective memory, and the ongoing negotiation of tradition and modernity.

Rituals as Emotional Expression: Norms, Performance, and Resonance

Rituals, in their essence, are performative acts imbued with symbolic meaning. They are not simply habitual actions but carefully orchestrated sequences that follow established norms and conventions (Durkheim, 1915). These norms provide a framework for understanding the appropriate expression of emotions within specific social and cultural contexts. As Goffman (2007) observed in his work on the presentation of self in everyday life, social interactions are often governed by implicit rules and expectations that shape how individuals present themselves and manage their emotions. In Chinese period dramas, rituals often serve as a primary means of expressing emotions, particularly those deemed too complex or sensitive for direct verbal articulation. By adhering to established ritualistic practices, characters can communicate their feelings of joy, sorrow, love, respect, or grief in a way that is both culturally intelligible and emotionally resonant. This performative aspect of ritual aligns with the work of Schechner (2020), who emphasizes the importance of "restored behavior" in ritual, where actions and gestures are repeated and reenacted, carrying layers of historical and cultural meaning. This section will explore how rituals, through their normative structures and performative aspects, provide a structured outlet for emotional expression, fostering a sense of shared understanding and collective experience among both the characters within the dramas and the audiences engaging with them. The emphasis on ritual performance further underscores the importance of embodied experience in the construction and transmission of communicative memory.

One of the key functions of rituals is to provide a socially sanctioned space for the expression of emotions that might otherwise be considered taboo or disruptive. For example, mourning rituals, as depicted in dramas like *A Lifelong Journey*, offer a structured way for individuals to express their grief and commemorate the deceased. These rituals, while adhering to specific cultural norms, also allow for personalized expressions of sorrow, creating a space for both collective mourning and individual grieving. The standardized procedures of traditional Chinese funerals, from the wearing of white mourning garments to the burning of incense and paper money, provide a framework for managing the intense emotions associated with death and loss. This resonates with the work of anthropologists like Van Gennep (1960), who highlighted the importance of rites of passage in marking transitions and facilitating social integration. However, within this framework, individual expressions of grief, such as wailing, singing lamentations, or sharing personal anecdotes about the deceased, are also incorporated, creating a dynamic interplay between collective norms and individual experience. This personalized dimension of ritual performance, as explored by Turner (1969), allows for a deeper emotional connection to the deceased and facilitates the process of mourning and healing.

Rituals not only regulate emotional expression but also provide opportunities for performative displays of emotion. These performances often involve a heightened sense of theatricality, utilizing symbolic gestures, costumes, music, and language to amplify the emotional impact. Wedding ceremonies, for example, are often depicted in period dramas as elaborate spectacles that

showcase the joy and celebration associated with the union of two families. In *Romance of Our Parents*, the contrast between Jie An's Western-style wedding expectations and the more traditional Chinese ceremony that ultimately takes place highlights the cultural negotiation of ritual practices and their emotional significance. This negotiation reflects the broader tensions between tradition and modernity that often play out in period dramas, as discussed by scholars like Jinhua and Chen (2000). Similarly, *Romance in the Alley* depicts various rituals, such as the celebration of the Spring Festival, which are portrayed with a heightened sense of performance. These scenes, often accompanied by traditional music and vibrant colors, contribute to the emotional richness of the narrative. The specific ways in which families in the alley celebrate these events, such as sharing food or exchanging gifts, reflect not only the customs of the time but also the emotional bonds between community members. The ritual performance, even in its adapted form, serves as a public declaration of love and commitment, reinforcing social bonds and creating a shared memory for the couple and their community. This aligns with the anthropological understanding of ritual as a form of symbolic communication that creates and reinforces social cohesion (Geertz, 1973). The use of vibrant colors, traditional music, and symbolic gestures, such as the exchange of tea and the bowing to elders, amplifies the emotional resonance of the event, creating a lasting impression on both the characters and the audience.

The emotional resonance of rituals is further amplified through the use of symbolic objects and actions that carry culturally specific meanings. These symbols act as triggers for collective memory, evoking shared emotions and reinforcing a sense of cultural identity. In *Our Times (Qi Hang: Dang Feng Qi Shi)*, dir. Liu Chang & Ma Yiming, (2021), the depiction of the changing technological landscape of the 1990s, including the introduction of pagers and early mobile phones, is interwoven with the characters' personal and professional lives. These technological objects become symbolic representations of a specific era, evoking nostalgia and a sense of shared experience among audiences who lived through that period. This use of material culture to evoke memory aligns with the work of scholars like Daniel Miller (2010), who emphasizes the role of objects in shaping and reflecting social relations and cultural values. The rituals associated with these technologies, such as sending coded messages on pagers or making long-distance calls on bulky mobile phones, become imbued with emotional significance, representing the anxieties, aspirations, and social connections of that time. The wedding ceremony in *Romance of Our Parents*, beyond its portrayal of personal emotions, functions as a *lieu de mémoire* by embodying the ritual dimension of cultural memory. It showcases the negotiation between traditional and modern values during a period of significant social change. This ritual becomes a site where individual memories intersect with collective cultural practices, reflecting the evolving social norms and emotional landscapes of the time. By focusing on the ritualistic aspects of the wedding, the drama not only provides a window into the characters' personal lives but also illuminates how collective memory is performed, negotiated, and transmitted through such social rituals. The detailed depiction of the ceremony anchors the audience's understanding of the era's cultural memory within a specific ritualistic context, highlighting the role of rituals in shaping and reflecting societal transformations. The dramas' careful attention to these seemingly mundane details allows them to tap into the collective memory of a specific generation, fostering a sense of shared identity and nostalgia. This resonates with Boym's (2001) concept of "reflective nostalgia," which involves a longing for a particular time and place, often accompanied by a critical awareness of the past's complexities.

In Chinese period dramas, rituals function as powerful mechanisms for expressing and shaping emotions. Through their adherence to established norms, their performative nature, and their use of culturally resonant symbols, rituals create a space for shared

emotional experience and contribute to the construction of communicative memory. This analysis of rituals as emotional expressions highlights the importance of cultural context and embodied practice in understanding how individuals and communities navigate the complex landscape of human emotions and construct a shared sense of the past. It builds on the work of scholars like Assmann (2011), who emphasize the role of cultural memory in shaping collective identity and social cohesion. It provides a foundation for examining the broader role of rituals in the production and maintenance of communicative memory, which will be further explored in the following section.

Rituals and the Construction of Communicative Memory: Sharing, Interaction, and Transmission

Rituals are not merely vehicles for emotional expression; they are also crucial sites for the construction of communicative memory. Unlike individual memory, which resides solely within the individual mind, communicative memory emphasizes the sharing, negotiation, and transmission of memory within interpersonal interactions and social exchanges (Assmann, 2011). As Wertsch (2002) highlights, collective remembering is a fundamentally social process, shaped by the cultural tools and narratives available to a group. Rituals, as social activities, provide opportunities for individuals to participate and experience together, fostering emotional exchange and shared meaning. Through shared actions, language, and symbols, rituals transform individual memories into collective ones, integrating them into the group's cultural traditions. This section will delve into how rituals construct and maintain communicative memory through mechanisms of sharing, interaction, and transmission, analyzing the significance of this communicative memory in shaping group identity and maintaining social cohesion.

The shared nature of rituals forms a crucial foundation for the construction of communicative memory. Within rituals, individuals participate in the same activities, experience similar emotions, and share common meanings. This shared experience breaks down the isolation of individual memories, integrating them into a larger community. For instance, in *Our Ordinary Days*, the drama portrays the lives of several families in a small northern Chinese city over decades, interspersed with scenes of holiday celebrations and neighborly assistance. These rituals, experienced collectively, form their shared memories and strengthen their social bonds. Ritual activities during the Spring Festival, such as pasting spring couplets, setting off firecrackers, and eating dumplings, are not only shared cultural memories for Chinese people but also vital links maintaining family and community ties. Similarly, in *Romance in the Alley*, the shared experiences within the close-knit alley community contribute significantly to the formation of communicative memory. Events like the annual celebration of the Mid-Autumn Festival, where families gather to share mooncakes and stories, create lasting collective memories. These shared rituals reinforce community bonds and foster a sense of belonging that transcends individual experiences, highlighting the role of collective participation in the construction of a shared past. By participating in these rituals together, people share their joys and sorrows, reinforcing their identification with their cultural identity. This resonates with the work of Connerton (1989), who emphasizes the role of embodied practices in creating and transmitting social memory.

The interactive nature of rituals also contributes to the construction of communicative memory. Rituals are not a one-way process of indoctrination or passive reception but rather an interactive and negotiated process. During rituals, individuals construct a shared understanding and meaning of the ritual through communication and interaction. For instance, in *A Long Way Home*, the drama portrays scenes of mutual support and assistance among

forestry workers, including shared labor and celebrations—ritualized activities. These interactions not only enhance their emotional bonds but also allow them to experience the hardships and rewards of forestry reform together, thus forming shared memories. This aligns with the dialogic model of communication (Bakhtin, 1981), which emphasizes the importance of interaction and meaning-making in social contexts. During these interactions, individual memories intertwine and influence each other, eventually forming a shared memory network that closely connects individuals within the group.

The transmission of rituals ensures the continuation and development of communicative memory. Through transmission across generations, rituals pass memories from the past to the present and preserve present memories for the future. This intergenerational transmission not only maintains cultural continuity but also shapes the historical consciousness and identity of the group. This resonates with Assmann's (2011) distinction between communicative and cultural memory, where communicative memory refers to the lived memories shared within a social group, while cultural memory represents the formalized and institutionalized memories passed down through generations. For example, in *Where Dreams Begin*, the drama showcases the growth of young people in Beijing during the reform and opening-up era, including many era-specific ritual activities such as the *gaokao* (college entrance examination), joining the army, and venturing into private business. These ritual activities not only reflect the social landscape of specific historical periods but also carry the collective memories of specific generations. By participating in these rituals, the younger generation not only learns about the experiences of their parents but also inherits their spirit, forming a transgenerational cultural identity and social cohesion.

Through mechanisms of sharing, interaction, and transmission, rituals transform individual memories into communicative memory, integrating this shared memory into the group's cultural traditions. This communicative memory not only maintains the group's cohesion and sense of belonging but also shapes their historical consciousness and cultural identity. In the context of rapid social change in modern society, rituals act as bridges connecting the past, present, and future, playing an increasingly important role in maintaining social stability, transmitting cultural values, and shaping group identity. By depicting various rituals, Chinese period dramas not only enrich their narrative content but also provide valuable insights into the relationship between rituals and communicative memory.

Commercial Rituals: Collective Memories of a Changing Era

Chinese period dramas not only focus on traditional rituals but also keenly capture the "commercial rituals" that have emerged alongside socio-economic transformations. These commercial rituals, such as commodity trading, entrepreneurial celebrations, and business negotiations, may lack the religious or cultural connotations of traditional rituals, but they have gradually formed their own norms and symbolic systems amidst the wave of the market economy, becoming a significant component of collective memory in specific eras. They reflect the economic activities, social relations, and values of people during particular historical periods, and also carry the collective memories and emotional experiences of specific groups. This section will explore how period dramas depict commercial rituals and how these rituals participate in constructing the collective memory of changing times.

Commercial rituals reflect the economic development and social changes of specific eras. *Family on the Go (Wen Zhou Yi Jia Ren)*, dir. Kong Sheng & Li Xue, (2012), through the entrepreneurial journey of the Wanshun Zhou family, showcases the pioneering and enterprising spirit of Wenzhou merchants in the early stages of reform and opening up, as well as their struggles and sacrifices amidst the tide of the market economy. The various commercial

activities depicted in the drama, such as street vending, running small shops, and setting up factories, all bear strong characteristics of the era, becoming distinct marks of the collective memory of that time. These commercial activities, while seemingly ordinary, carry profound social significance. They symbolize China's transition from a planned economy to a market economy and bear witness to the country's economic takeoff and the improvement of people's living standards. This resonates with the work of anthropologists like Appadurai (1986) who explore the social life of things and how commodities circulate within specific cultural and economic systems.

Commercial rituals also shape the collective memory and identity of specific groups, such as merchants. *Feather Flies to the Sky* vividly portrays the entrepreneurial legend of Yiwu merchants "bartering chicken feathers for sugar" and their journey of developing the small commodity trade after the reform and opening up. The various commercial rituals depicted in the drama, such as business negotiations and trade fairs, not only embody the business acumen and entrepreneurial spirit of Yiwu merchants but also represent an essential part of their collective memory and identity. Through repeated practice and transmission, these commercial rituals have gradually formed the unique culture and values of Yiwu merchants and shaped their distinctive image in the Chinese and even global business arena. This aligns with the work of scholars like Yang (1994) who examine the cultural and social dynamics of entrepreneurship in China.

Commercial rituals are closely related to emotions and values. While the essence of business activities is the pursuit of profit, commercial rituals in period dramas are often imbued with emotions and values that transcend economic interests. For instance, in *Like a Flowing River*, Yunhui Song and Dongbao Lei represent two different development models, state-owned enterprises and collective enterprises, respectively. They demonstrate not only their economic acumen but also their sense of responsibility to the country and the collective, as well as their pursuit of ideals and beliefs, in their commercial activities. By showcasing the characters' emotions and values, these commercial rituals transform business activities from cold economic behaviors into social practices filled with human touch and the spirit of the times, thus resonating more readily with the audience. This reflects the broader trend in memory studies to explore the affective dimensions of collective remembering (Olick, 1999).

Commercial rituals, as a new form of ritual, play an increasingly important role in Chinese period dramas. They reflect the changing times, economic development, and transformations in social relations, and also shape the collective memory and identity of specific groups. By depicting commercial rituals, period dramas not only showcase the course of China's socio-economic development but also delve into the emotions, values, and spirit of the times embedded in business activities, allowing viewers to gain deeper insights into history and reality while watching the story unfold.

This section has explored the multifaceted roles of rituals in Chinese period dramas, examining their function as expressions of emotion, their contribution to the construction of communicative memory, and the significance of commercial rituals in reflecting the changing tides of the era. Rituals provide a normative framework and a performative stage for the expression of emotions. More importantly, through shared experience, interaction, and intergenerational transmission, they construct and maintain communicative memory within groups. Furthermore, the emergence of commercial rituals reflects the shifting currents of the times and participates in shaping new forms of collective memory. By depicting a variety of rituals, period dramas not only enrich their narrative content but also provide a crucial lens for understanding the complex relationship between individual experience, social change, and cultural transmission. This in-depth analysis of rituals allows us to further understand how period dramas, functioning as *lieux de mémoire*, integrate individual

memories into broader social and cultural memory, ultimately shaping our understanding of both the past and the present. This understanding of ritual and communicative memory lays the groundwork for the subsequent analysis of how narratives sculpt time and the representation and interpretation of cultural memory.

Narratives That Sculpt Time: The Representation and Interpretation of Cultural Memory

Period dramas do more than simply recount the twists and turns of individual destinies; they represent and interpret the cultural memory of specific eras. Through carefully constructed narrative structures, character portrayals, and plot developments, these dramas weave individual and communicative memories into grand historical narratives, thereby shaping and transmitting cultural memory. As Hayden White (1973) argues, history is not merely an objective record of past events but a narrativized construction. Period dramas, as a form of historical narrative, do not strive to restore the "truth" of history. Instead, they express the cultural values and spiritual pursuits of specific eras through artistic adaptation and interpretation of historical events and figures. This section will explore how period dramas employ narrative strategies to "sculpt time," how they represent and interpret cultural memory, and ultimately how they shape our understanding of the past and present. We will analyze the ways in which period dramas function as historical narratives, the influence of media evolution on memory transformation, and the role of cultural symbols in evoking and interpreting cultural memory, gaining a deeper understanding of the significance and value of period dramas within the contemporary Chinese cultural context.

Period Dramas as Historical Narratives: Representation, Reconstruction, and Imagination

Period dramas, set against the backdrop of specific historical periods, inherently undertake the task of historical narration. They represent, reconstruct, and imagine history through artistic means, expressing their understanding and reflection on history. By artistically processing and fictionalizing historical events and figures, period dramas explore the possibilities of history and the complexities of human nature, prompting audiences to reflect on both history and the present. This section will delve into how period dramas "tell" history through their unique narrative approaches and how this "telling" seeks a balance between representation, reconstruction, and imagination, ultimately shaping our cognition and understanding of history.

Period dramas "represent" history by bringing past landscapes to life for the audience. This representation is not a mere replication or imitation but an artistic presentation based on historical materials and cultural contexts. For instance, *A Lifelong Journey*, through tracing the lives of three generations of the Zhou family, portrays the dramatic transformations in Chinese society over nearly five decades. The drama meticulously depicts details of social life in specific eras, such as clothing, food, and living environments, striving to recreate the social landscape of specific historical periods and providing audiences with a more intuitive understanding of social life in those times. While striving for authenticity, this "representation" is not entirely objective. It inevitably incorporates the creators' understanding and interpretation of history, as well as their choices and applications of narrative strategies. Nostalgia theory (Boym, 2001) offers a valuable lens for understanding how the representation of the past in period dramas evokes emotional resonance in audiences and how this resonance contributes to the construction of collective identity.

Period drama narratives also often "reconstruct" history. Based on the needs of the narrative, they rearrange and combine historical events and figures, even engaging in bold fictionalization and imagination, presenting a historical picture different from that found in history textbooks. Hayden White (1973), in his work *Metahistory: The Historical Imagination in Nineteenth-Century Europe*, argues that historical writing inevitably involves a process of narrativization, with historians selecting and interpreting historical events based on their own perspectives and standpoints. As products of popular culture, period dramas often exhibit a more pronounced "reconstruction" of history. For example, in *Like a Flowing River*, the fates of the three main characters, Yunhui Song, Dongbao Lei, and Xun Yang, though fictional, reflect the circumstances and choices faced by different social groups during the early stages of reform and opening up. They also metaphorically represent the exploration and development of Chinese society during this transformative period. This reconstruction of history is not a distortion or denial of the past but a means of better demonstrating the complexity and multifaceted nature of history, prompting a deeper reflection on the past and its connection to the present.

In addition to "representation" and "reconstruction," period drama narratives also incorporate elements of "imagination." This imagination is not fabricated out of thin air but is based on reasonable conjecture and artistic creation within historical and cultural contexts. It can involve speculation about the inner lives of historical figures or hypothetical scenarios about the trajectory of historical events. *Where Dreams Begin*, for instance, sets the story of a group of young people in Beijing against the backdrop of the reform and opening-up era, showcasing their struggles and growth amidst the tide of change. While the drama does not depict specific major historical events, it captures the spirit and social atmosphere of the era through portraying the characters' daily lives and emotional experiences, resonating with audiences on themes of youth, dreams, and the passage of time. This "imagination" is not a fictionalization of history but a capturing and artistic expression of its spirit, enhancing the emotional impact and artistic quality of the drama and enriching our understanding and imagination of history. This creative interpretation aligns with the concept of "historical fiction" as a genre that blends historical accuracy with imaginative storytelling (Hutcheon, 1988).

As a form of historical narration, period dramas seek a balance between representation, reconstruction, and imagination, shaping our cognition and understanding of history through these approaches. They do not strive to restore the "truth" of history but aim to stimulate reflection on history and reality through artistic representations of the past. This "telling" of history requires both respect for historical facts and attention to artistic expression, endowing period dramas with both historical weight and artistic appeal. By representing, reconstructing, and imagining the past, period dramas create a narrative space that combines historical awareness and artistic sensibility, allowing viewers to engage in deeper thought and reflection about history and the present while enjoying the story.

Media Evolution and the Reshaping of Cultural Memory

Period dramas, as media products, not only reflect the media environment of specific historical periods but also actively participate in reshaping cultural memory through their narrative strategies and use of media technologies. This section will explore how period dramas depict media technologies from different historical periods, how media evolution influences the representation, interpretation, and dissemination of cultural memory, and ultimately how it shapes our understanding of the past and present. We will analyze how different media affect the reach and persistence of cultural memory, how they alter the authority of memory, and how they shape collective identity,

thereby gaining a deeper understanding of the cultural significance and value of period dramas in a mediated society.

Different media technologies imbue cultural memory with varying reach and persistence. In the era of oral culture, cultural memory relied primarily on collective storytelling and ritual performances, limiting its dissemination and making it susceptible to the constraints of time and space. As Ong (1982) notes, oral cultures depend on presence and memory, with knowledge and traditions transmitted solely through face-to-face communication. The advent of printing technology transformed the preservation and dissemination of cultural memory, with written records like genealogies and local gazetteers extending the reach and enhancing the persistence of cultural memory. As Eisenstein (1979) argues, print culture fostered the standardization and dissemination of knowledge, freeing the transmission of cultural memory from its reliance on individual recollection. Period dramas often depict print media such as letters, diaries, and newspapers to reflect the cultural memory of specific historical periods. For example, in *Romance of Our Parents*, the exchange of letters between Jie An and her family not only sustains familial bonds but also documents the social landscape and personal emotions of that era, becoming a precious form of cultural memory. This exemplifies the crucial role of media as carriers of cultural memory (Assmann, 2011).

Media evolution also influences the authority of cultural memory. In traditional societies, the authority of cultural memory often resided with family elders, religious leaders, and other figures of authority. With the rise of mass media, such as radio and television, the production and dissemination of cultural memory shifted, and its authority gradually transferred to state and media institutions. McLuhan (1964) famously asserted that "the medium is the message," arguing that the form of media itself shapes how information is conveyed and received. In period dramas, radio and television frequently appear as significant narrative elements. In *Like a Flowing River*, for example, national policies are disseminated through radio broadcasts, and social events are reported through television news. This media content not only influences the characters' perceptions and actions within the drama but also shapes the audience's cultural memory of that specific historical period, highlighting the powerful influence of mass media in constructing and disseminating cultural memory.

In the new media era, the proliferation of digital media, including the internet and mobile devices, has further transformed the production, dissemination, and consumption of cultural memory. The interactive and participatory nature of digital media enables ordinary individuals to participate in the construction and dissemination of cultural memory, aligning with Jenkins' (2006) theory of "participatory culture," which argues that in the new media environment, consumers also become producers and disseminators of culture. In *Our Times*, the depiction of the rise of the internet showcases the impact of emerging media technologies on people's lifestyles and social interactions, also foreshadowing profound changes in how cultural memory is produced and disseminated. By portraying the evolution of media technologies, period dramas not only reflect the changing times but also prompt audiences to contemplate the transmission and development of cultural memory. This echoes Hoskins' (2011) observation that media, memory, and metaphor are intricately linked. The development of media technology changes not only how we remember but also how we understand and express history.

The shift from individual to mediated memory represents a significant transformation brought about by the development of media technologies. Through their portrayal of media technologies from different historical periods and their depiction of characters' memory activities, period dramas vividly illustrate the influence of media evolution on the transformation of memory. The development of media technologies has not only altered the externalization and persistence of memory and the ways in which it is shared, but it has also reshaped historical narratives and cultural

identities. By exploring the complex relationship between media and memory, period dramas not only enrich their narrative dimensions but also provide valuable insights into the transformation and cultural transmission of memory in a mediated society.

Cultural Symbols and the Awakening of Era Memory: Symbolism, Metaphor, and Resonance

Cultural symbols are like pearls scattered along the river of time, carrying the cultural memory of specific eras and evoking emotions and memories of the past. Period dramas, as cultural products, utilize a rich array of cultural symbols to depict the social landscape and cultural atmosphere of particular historical periods, resonating with the audience. These symbols can be popular songs, fashion styles, or objects and scenes with symbolic meaning. They act as triggers of memory, awakening emotions and memories associated with specific eras and helping people better understand history and culture. This section will explore the use of cultural symbols in period dramas, how they awaken era memory, and how they shape the audience's understanding of history and culture through symbolism, metaphor, and resonance.

Cultural symbols condense and express the cultural connotations of specific eras in symbolic forms. As Barthes' (1957) semiotic theory reveals, symbols are not merely simple referents but carry rich cultural meanings and ideologies. In period dramas, seemingly ordinary objects or scenes are often imbued with specific symbolic meanings, becoming a concentrated expression of the spirit of a particular era. For example, in *Where Dreams Begin*, objects like military-green satchels and "28" bicycles symbolize the material scarcity and simple life of that era. These symbols are not just objects but emblems of the era's spirit, evoking memories of youth for those who lived through it and helping younger generations understand their parents' experiences and the social landscape of that time.

Cultural symbols often express deeper cultural meanings through metaphors. Lacan (2001) argues that metaphor is a crucial mechanism in language and culture, expressing complex and subtle meanings by substituting one concept for another. For example, in *Our Times*, the recurring image of "setting sail" not only refers to the beginnings and development of China's information industry but also metaphorically represents the era of transformation brought about by reform and opening up and the shifts in individual destinies. This metaphorical expression allows cultural symbols to transcend superficial symbolic meanings and prompt the audience to engage in deeper reflection on the spirit of the times and social change.

The use of cultural symbols can evoke emotional resonance in the audience, thereby enhancing the emotional impact and persuasiveness of period dramas. Fiske's (2011) theory of "textual pleasure" suggests that popular culture texts attract audiences because they offer emotional and intellectual satisfaction. Cultural symbols in period dramas, by evoking the audience's collective memory and shared emotional experiences, can trigger strong emotional resonance. For instance, in *Romance of Our Parents*, popular songs from specific eras, such as "Moscow Nights," evoke shared memories among audiences who lived through those times, resonating with their feelings about love, family, and friendship. This emotional resonance transforms period dramas from mere representations of history into awakenings of emotion and memory, strengthening the emotional connection between the drama and the audience.

Period dramas weave the memories and emotions of specific eras into their narratives through the use of rich cultural symbols. These symbols awaken the audience's era memory and deepen their understanding of history and culture through symbolism, metaphor, and resonance. The use of cultural symbols transforms period dramas from simple representations of history into emotional links connecting the past and present, the individual and the collective,

playing a significant role in cultural transmission and emotional communication in contemporary society.

This section has explored how period dramas "sculpt time" and represent and interpret cultural memory through three dimensions: historical narrative, media transformation, and cultural symbols. Period dramas construct a narrative space that combines historical awareness and artistic sensibility by representing, reconstructing, and imagining history (White, 1973). They reveal the impact of media evolution on cultural memory by depicting different media technologies (McLuhan, 1964). And they evoke era memory and emotional resonance in audiences through the use of cultural symbols (Barthes, 1957). These narrative strategies transform period dramas from mere retrospectives of the past into cultural bridges connecting the past, present, and future, playing a crucial role in transmitting cultural memory, shaping collective identity, and fostering social cohesion. These narratives ultimately contribute to a richer and more nuanced understanding of the ongoing dialogue between individual experience, collective memory, and the historical forces that shape contemporary Chinese society.

Conclusion

This study, framed by the theory of *lieux de mémoire*, has explored how Chinese period dramas construct, perform, and negotiate collective memory through three dimensions: the dispersion of spatial representation, the rituals of emotional interaction, and narratives that sculpt time. The research reveals that period dramas do not merely represent the past but create a dynamic and tension-filled memory space by skillfully employing space, ritual, and narrative, interweaving individual, communicative, and cultural memories. The significance of this study lies in its application of the *lieux de mémoire* theory to the study of Chinese period dramas and its in-depth exploration of the cultural memory function of these dramas through the lens of space, ritual, and narrative. Specifically, it extends the application of Nora's framework to a non-Western context and a specific media genre, enriching our understanding of how *lieux de mémoire* can be formed and function in a mediated and rapidly changing society. Moreover, this study offers valuable insights into the cultural politics of contemporary China, revealing how the past is selectively represented, interpreted, and negotiated in popular media to construct a shared cultural identity and foster social cohesion.

The study found that spatial dispersion plays multiple roles in period dramas. It is not only the backdrop against which stories unfold but also a significant factor shaping characters' destinies and influencing individual memory. Homes, regions, and other spatial settings are imbued with rich symbolic meaning, becoming *lieux de mémoire* that connect the past and present, the individual and the collective. For example, the experience of dispersion evokes longing for homeland and family, which in turn translates into an affirmation of traditional culture and values. Regarding rituals, the study found that rituals in period dramas are not merely displays of cultural customs but also vital avenues for emotional interaction and shared meaning-making. Traditional rituals, such as weddings, funerals, and holiday celebrations, strengthen social bonds and transmit cultural values. Meanwhile, commercial rituals have emerged, bearing witness to the changing times and symbolizing the identity of specific groups. In terms of narrative, period dramas construct multi-layered cultural memories through the representation, reconstruction, and imagination of history, along with the use of media technologies and cultural symbols.

The significance of this study lies in its application of the *lieux de mémoire* theory to the study of Chinese period dramas and its in-depth exploration of the cultural memory function of these dramas through the lens of space, ritual, and narrative. This not only enriches our understanding of period dramas but also offers new perspectives on cultural memory and identity formation in Chinese

society, particularly by revealing how period dramas construct *lieux de mémoire* to connect individual and collective memory, and how, in the context of rapid social change, they sustain cultural identity and social cohesion through narratives of the past. However, this study also has limitations. Due to the limited scope of case selection, the conclusions may not be applicable to all types of period dramas. Furthermore, the study primarily focuses on textual analysis of the dramas themselves, paying less attention to audience reception and interpretation. Future research could incorporate audience studies to explore the specific mechanisms through which the construction of cultural memory in period dramas operates at the audience level, examining how different demographic groups or social communities engage with and interpret these narratives. Additionally, exploring period dramas from other cultural contexts and comparing them with Chinese period dramas could provide valuable insights into the similarities and differences in how collective memory is constructed and negotiated through this genre across different societies.

Building on the findings and limitations of this study, future research can be developed in several directions. First, the scope of case studies could be broadened to include comparative analyses of period dramas from different eras and genres to gain a more comprehensive understanding of their cultural memory function. Second, cross-cultural comparative studies could be conducted to explore the similarities and differences in the construction of cultural memory in period dramas across different cultural backgrounds. Finally, more diverse research methods, such as combining textual analysis with interviews and surveys, could be employed to conduct more in-depth and comprehensive research on the construction of cultural memory in period dramas.

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About the Authors

Ying Ma  0000-0002-4218-1159
Anhui University, Hefei, China

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Integration and Innovation in the Improvisational Thinking of the Pipa Player Wu Man

Yao Ma^{1*}

¹*Sichuan Conservatory of Music, China*

*Corresponding author: 654810013@qq.com

Abstract

Wu Man's impromptu Pipa music is an essential and active attempt in the context of world music, which brings many inspirations to the innovative integration of traditional Chinese folk music. This paper explores various efforts to integrate traditional Chinese folk music into the global music scene by examining approaches in composition, technique, timbre, and performance styles. It uses listening, performance practices, music analysis, participation, and on-site observation to assess how these elements can be successfully merged within a global context.

Keywords : Chinese Traditional Folk Music; Improvisational Music; Fusion Music

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Introduction

From the long history of Chinese music development, there has always been a main line of growth in the trend of music culture, that is, to seek innovation and change constantly. As an essential part of Chinese traditional culture, Chinese traditional folk music is worth paying attention to in terms of its development trend. Influenced by the Belt and Road initiative proposed by Chinese President Xi Jinping, musical and cultural exchanges between countries are becoming increasingly frequent. The innovation and integration of music culture has also challenged traditional Chinese folk music development. Keeping the original cultural connotation of traditional Chinese folk music while developing a new form to adapt to the current new era is worth many musicians to think and try actively.

There are many challenges in the innovation and integration of Chinese traditional music. Just take the cultural aspect as an example. The differences between Chinese and western cultures result in diverse music types and styles. Specifically, western culture pursues meticulousness and precision, which derive from complex logical systems, construct a cumbersome and massive philosophical system, calculate minimal errors, and get a rigorous definition. Such rational rigour is the most potent tool of western scientific culture. Chinese culture shows an opposite tendency: openness, simplicity, and lightness. The pursuit of insights and insights into the essence always urges musicians to use the least words to express the most content and create the most touching charm. Meanwhile, westerners pursue more meticulousness and rigorousness, while the Chinese pursue simplicity. These two tendencies have different cultural ontologies, thus forming different functional tension, which also brings many challenges to integrating traditional Chinese folk music.

Notwithstanding the myriad differences and challenges, a Chinese musician's improvisational music has significantly mitigated the musical discord arising from cultural disparities between China and the West. Wu Man, a globally acclaimed Pipa virtuoso, has successfully introduced this traditional Chinese instrument to Western audiences. She is also the first Chinese folk musician to be signed by ICM, the world's premier agency for classical music artists. Inspired by Wu Man's Improvisation Thinking, this paper analyses some attempts at integrations in

composition, technique and timbre, and playing forms by adopting listening and performance practice methods, music analysis, participation, and on-site observation to consider how to integrate traditional Chinese folk music into the world.

Similarities and differences between Chinese and Western improvisational music

Improvisation is a creative performance performed by the performer without relying on music score or memory, and it is spontaneous and random. The creative intention is synchronised with the performance process, and the performance is the generation and final form of the musical work. By balancing steadiness and variability, predictability and surprise, the performer develops musical ideas and promotes the development of music. The process requires a combination of logic and coherence, a combination of structural thinking and real-time creation, the rapid extraction and application of material from musical knowledge, and the completion of the work in a well-organized and hierarchical manner.

Impromptu performance has a long history in Chinese traditional music culture, which is not only a unique form of music creation but also an essential means of inheriting. This stems from the fact that the ancient musical inheritance mainly relied on oral instruction between masters and students rather than strictly relying on musical scores. Due to the lack of musical notation, the apprentices can improvise moderately in the performance. The music notation used by the ancients, such as *Gongchepu* (工尺谱), only marked the backbone of the melody and the main characteristics. In contrast, *Jianzipu* (减字谱) only marked the pitch, and the performer freely played the rest according to personal understanding and improvisation experience.

In Western musical traditions, improvisation is regarded as an integral component that permeates all stages of musical development and serves as a potent force driving the emergence of new forms. In many traditional music systems, improvisation bridges the gap between expressing individual creativity and preserving musical traditions. For instance, in Indian classical music, the framework for improvisation is structured around *Raga*

and *Tala*. Yet, performers are encouraged to enhance the emotional depth and expressiveness of the music through creative interpretation within these parameters. In conventional improvisatory practices (such as jazz, Flamenco, and Baroque music), improvisation functions both as a tribute to the established traditions of a particular style and as an impetus for developing innovative forms of expression. In Flamenco music, for example, improvisation not only conveys tradition but also grants performers the freedom to modify the rhythm, structure, or atmosphere of a piece, thereby maintaining its freshness and creativity. Since the mid-20th century, the evolution of non-idiomatic improvisation has shifted its focus from stylistic expression to broader creative exploration. Free improvisation typically lacks a fixed framework, allowing musicians to create entirely based on the mood and interaction of the moment, thus transcending the limitations of traditional musical styles.

It is evident that despite the varying roles improvisation plays in the musical styles of different cultures, it demonstrates remarkable continuity and adaptability throughout music history, thereby fostering the development of musical individuality and diversity.

Drawing upon the similarities and distinctions between Chinese and Western music in terms of improvisation, Wu Man employs an improvisational approach within the framework of world music to seamlessly integrate elements from both traditions.

Attempts at Integration in Composition

There are essential differences in the mode composition of Chinese and western music systems. The mode in Chinese is a pentatonic system, which is natural, straightforward, and suitable for the performance of bright, strong, and rough styles. Meanwhile, the other is a seven-tone system, which is more complex, delicate, and ideal for the delicate and gorgeous atmosphere performance.

The tendency of the two kinds of music is also different in vocal structure. When dealing with the multi-part relationship, the western music system tends to adopt textural thinking with the network and three-dimensional nature mainly based on vertical harmony. That is paying particular attention to the harmonic relationship between the leading melody and other parts. In most cases, one melody will dominate, and other parts will subordinate that as supporting elements. Only one of the main horizontal tunes has melodic or complete melodic meaning. The different sound columns only serve as a foil to the main melody. They can highlight the tone, strengthen its rhythm, enrich the sound effects, render the mood colour, enhance the image, etc.

In contrast, the Chinese music system is horizontally linear in texture thinking; that is, it pays attention to the horizontal development of the melody of each part. Most Chinese music is monophonic, and its texture and melody overlap. The texture is the horizontal expansion of the melody only as a monophonic part. If a multi-part texture is involved, it is more like polyphonic music, where two or more melodies are combined in a particular way. Many Chinese players try playing familiar pop songs with traditional Chinese folk instruments. One of the bands that tried to stand out in this area was the *Twelve Girls Band* (女子十二乐坊), which was very popular for a while. The band's skilled and beautiful young women, all from professional colleges, attracted the attention of the public and the media from the moment they debuted. Although they achieved good results for a while, they did not last long. They break up popular music into melodic parts for individual instruments. Such replicative and straightforward adaptation ignores the characteristics of each national instrument. At first, people may have a curiosity about listening to it. However, over time, people will get tired of it. Moreover, this kind of music also loses the characteristics of traditional Chinese music.

Wu Man played her voice in the Pipa language as a professional Pipa player. She also participated in creation and improvisation by

integrating Chinese and western music. It presents a new attitude of cooperation, standardisation, and improvisation. *Yanghua September Flying* (杨花九月飞) is a vital work of Wu Man, an improvisation within a specific framework. Each performance is different, and there is ample space for free play on the scene. Sometimes, she also incorporates western music elements, making the music familiar and acceptable to the public with warmth in a rush and distinct creativity. This kind of performance has a specific framework but can play improvisation to a certain extent. It gives play to the language characteristics of the Pipa itself. It has also been recognised and affirmed by the mainstream music industry. In each of her improvisations, she always adopts a flexible pattern. However, she actively responds to changes according to the presence of music and people. Her keen appreciation of cross-culture, respect, admiration, and curiosity for artistic independence prove the distinct charm of her improvisation.

Like Wu Man, another Pipa player who has actively tried to break the traditional way of Pipa composition and contributed to the spread of traditional Chinese folk music is Zhong Yufeng. With blues guitarist David Chen, she made a crossover attempt to play blues with the Pipa. The fusion and collision of two kinds of ancient culture produced an exciting and vibrant musical scene. The most exciting thing about blues music is that they are relaxed, enjoyable, and follows their feelings. Their musical fusion creative process is like an impromptu dialogue. When they rehearse, David would start playing a blues riff first, and Zhong used traditional playing techniques to join in from time to time. Zhong could formulate musical forms with more explosive power than rock without thinking about chords. She also plays irregular melodies of seven scales with a thoughtful touch or suddenly plays magnificent march music. They talk in an impromptu manner, and after a few rounds, they will be pleasantly surprised to find that the music has gone to a new place and produced a wonderful fusion.

Integration of Technique and Timbre

Traditional Chinese folk instruments' techniques and timbre processing are usually customised to interpret traditional folk music. These techniques and timbre processing methods are very suitable for interpreting traditional music. However, when it comes to modern and Western music, some techniques and timbres do not match the content of the music image expression.

When Wu Man tried different improvisational works, she made experimental breakthroughs in traditional Pipa techniques and timbre to satisfy her works' expression. The Pipa is usually defined as a plucked instrument. Its primary performance method is to wear a flake fingernail on the right hand and press the string with the left hand. In the work "Ancient Legend", Wu Man uses a bow to pull the Pipa. Her experimental attempt to break out of the traditional technical framework makes the Pipa sound more expansive. In her work "Hometown Blues", she attached an effect device to the Pipa to have the electric sound that only rock guitar bands would use. The overload and distortion express the alternative mystery from the East, with the burning desire for the inner voice and constant struggle. In her first improvisation album, *From Afar - A Pipa Player* (来自远方), these pieces opened her imagination completely, expanding the possibilities of the Pipa technique and timbre. She produced music that was approximate to the simultaneous recording and writing that rock and pop music usually does. When making this album, they first described and determined the artistic conception of the track. The Pipa part track will be recorded in advance. Other instruments will be improvised based on her track to enrich the music gradually.

Suona is an ancient folk musical instrument in China and was usually played at weddings and funerals in the past. It has long been on the professional music stage, not only in modern works but also in contemporary collaborative works specially created for

Suona. Referring to bringing the Suona to the world's professional music scene, Guo Yazhi has made significant contributions to the innovative fusion of the Suona. He is a famous Suona player who plays jazz with the Suona in China. He studied jazz in Boston, which made him feel free and happy. Hoping to integrate the two music forms, he uses the Suona, which is very expressive, to create and play western music. However, the traditional Suona is challenging to play complex modern works, so he invented the Suona Live Core. It is an accessory of the Suona. If the Suona Live Core is installed, it becomes a "live Suona core." The live core Suona can play all modes and temporarily rise and fall, adapting to more complex tonality, harmony, and complicated techniques than the traditional Suona. The traditional Suona is the equivalent of a piano with only white keys. However, the Suona has a live core, like a piano with black keys. Meanwhile, Guo Yazhi is committed to combining Chinese music with Indian music and other world music in the United States.

Integration of Playing Forms

The difference between Chinese and western music rhythms is also tricky in integrating Chinese traditional music. Music has two kinds of rhythm; one is an evenly divided rhythm, and one is not an evenly divided rhythm. Even rhythm can produce even beats, while non-even rhythm is irregular and uneven. It cannot make fixed beats, often called "loose rhythm" in modern music. The even-division rhythm can be divided into strong and weak beats regularly and uniformly. According to the division of bar lines, there is a cyclic return of strong and weak beats, not idle by bar lines, and no fixed rule. These two different rhythms are an essential difference between the Chinese music system and the western music system. Most western music has two forms; the alternating changes of strong and weak beats are regular and even. In contrast, Chinese music often adds a lot of irregular and uneven rhythms. The variation of strong and weak beats is relatively free. Wu Man also gave a good answer in improvisational practice on integrating these two rhythm patterns well. Improvisation has a large structure within which to play freely. Wu Man said that improvisational music exists in many countries, including China, but we all need to remember. Western jazz is like traditional Chinese folk music, such as *Jiangnansizhu* (江南丝竹). Different instruments play variations after the free entry of loose rhythm and adding grace notes before returning to the theme. The impromptu performance of Chinese folk music has a thousand-year tradition among the people, which gives Wu Man a lot of inspiration and confidence to cooperate with musicians worldwide. It is a new exploration but also a return to tradition.

Joining the world fusion music improvisation for over two years, the author interacted with some players worldwide. They played with different ethnic instruments, various musical backgrounds, and familiar musical styles. They have less time to rehearse and usually practice their musical skills independently. Before they perform, they briefly discuss the framework, such as which instrument will play the central part and which instruments will play the auxiliary role. Usually, there is free dialogue and probing between several instruments first. Gradually, everyone found a familiar rhythm and the same feeling. After that, the performance entered a relatively mature and fixed rhythm stage. Different instruments took turns to play the lead while other instruments assisted the performance. At the end of the performance, the beginning of the theme will be repeated, which is also a signal of closure for everyone, and the performance will slow down to the end. In the performance, the musical instruments are from various countries, including Asalato from Africa, Digeridoo from Australia, Shamisen and Shakuhachi from Japan, Pipa and Ruan from China, and cello, violin, and synthesiser from western countries. In this case, the performers use the instrument in his hand as a language of expression and communication, allowing the music produced to collide and merge with other different instruments and musical

styles. People mainly express their current feelings and reactions to the environment and the music played by other musicians. In each ensemble, the comings and goings of different instruments vary according to the participants' situation, temperament, and habits. It becomes a way to socialise, express, and understand one's own experience and gain an understanding of others' specific experiences. The carrier of this kind of music maintains various interpersonal and community relations.

Nevertheless, this puts higher demands on the players. It requires each player to have a good knowledge of their instrument and improvisation skills. It is hard for many players, resulting from the ability to improvise music, which is not included in traditional Chinese music education. Improvisation includes (1) mastering a set of professional skills for playing one's instrument; (2) Being able to listen to and identify other people's music styles; (3) Being able to approach a type and play naturally; (4) In cooperation, being able to advance and retreat flexibly with other players. Many performers think improvisation music can relieve stress and stretch their minds, even though it might be healing. They often go to a very comfortable natural environment, feel the power of nature, and then express improvisational music. As the number of participants grew, the format spread. It is not just professional musicians involved, but music lovers from other businesses. Even if the audience does not know the music, they cannot help but sway their bodies to relax when they hear this type of music.

In Sichuan Province, China, where the author lives and studies, there is a form of Pipa playing and singing with a history of more than 200 years and is rated as a national intangible cultural heritage. It is called *Nanpingquzi* (南坪曲子). According to historical records, during the Yongzheng and Jiaqing years of the Qing Dynasty, this form of singing moved to the south with the immigrants from Shanxi and Gansu in the north of China. During nearly two hundred years of migration and fusion, due to the unique geographical position of the northwest of Sichuan, such as the special north-south handover and the unique geographical position of the Tibetan, Qiang, Hui and Han nationalities, this form of singing combines the folk culture and cultural interaction between the south and the north. This integrated way of playing retains the original cultural characteristics. Still, it collides with a new mode of playing and a state of symbiosis and co-prosperity, which is increasingly shining in the contemporary era. In October 2015, Jiuzhaigou Scenic Area, Sichuan Province, staged the first music event from Provence, France, and *Nanping Music*, which combines Chinese and Western elements. Local folk artists in Jiuzhaigou County picked up the Nanping Pipa and western orchestral instruments of French music masters to play the *Nanping Melody* (南坪小调) and *Picking Flowers* (采花) together, once again making *Nanpingquzi* (南坪曲子) a hot spot. Like the Nanping Pipa, traditional Chinese folk instruments with regional characteristics can also be promoted to the international stage through the integration and innovation of improvisation, combining Western and Chinese musical thinking.

Conclusion

Based on Wu Man's Pipa improvised music, this paper discusses how to make Chinese traditional folk music realise innovation and integration through improvised music. There are differences between Chinese and western music in form, structure, rhythm, cultural connotation, and many other aspects. To resolve these conflicts caused by these differences, musicians have made many attempts and finally found that improvisation is an excellent way to integrate this music. Improvisation is a form of performance that exists globally, serving as a bridge for communication and integration between different kinds of music. Improvisation can outline the space for equal dialogue and give full play to the characteristics of their folk music.

Most of the time, we tend to regard music as a presentation of skills and ignore its innermost sincere thoughts and emotions. Studying music does not necessarily lead to professional performers. Music is an experience that develops our keen perception and imagination of the world around us. Every country and every nation have different ways of expressing music. Chinese people are relatively reserved. Chinese traditional instruments pay attention to artistic conception. South American and African music is wilder because they always play outside. This aesthetic is differentiated, but there is no superior or inferior. It is because there are different kinds of beauty on one earth that make the world enjoyable. What is more important is to participate in multicultural exchanges through music and gather global cultural splendour.

Nowadays, China and many other countries globally face the same situation: the loss of traditional culture. If everyone wore the same clothes, ate the same food, and listened to the same music, the world would be boring and scary. Therefore, the meaning of the world lies in its diversity. Suppose traditional music loses its characteristics and assimilates with other cultures; in that case, it also loses its value in the world. The good news is that many countries have introduced aggressive conservation policies. More and more musicians are taking part in improvisational world music performances.

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About the Authors

Yao Ma

Sichuan Conservatory of Music, China

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The origin, application and prospect of the expressive therapy continuum (ETC)

Xiaohan Niu^{1*}

¹Graduate School of Social and Cultural Anthropology, Hanyang University, Korea

*Corresponding author: 741592554@qq.com

Abstract

With the rapid urbanization and economic development in China, mental health problems are becoming increasingly serious, especially in urban areas, where work and life pressures are huge, while in rural areas, mental health problems are more serious due to the lack of resources. Existing interpersonal psychotherapy (IPT) and cognitive behavioral therapy (CBT) have limitations in cultural adaptation and wide application, and it is difficult to fully meet the needs of the Chinese public. The expressive therapy continuum (ETC), as a multi-level art therapy model, helps patients release emotions, express feelings, and promote mental health through art activities at the levels of kinesthetic/sensory, perceptual/emotional, and cognitive/symbolic. The flexibility and creativity of ETC enable it to better adapt to different cultural backgrounds, especially in combining traditional Chinese art forms such as calligraphy and painting, to develop treatment methods that are more in line with local culture. In order to better promote ETC, it is necessary to strengthen professional training and public education, cultivate art therapists that meet international standards, and enhance the public's awareness and acceptance of ETC. Through these measures, ETC is expected to play an important role in China's mental health field, make up for the shortcomings of existing treatment methods, and comprehensively promote the mental health development of the Chinese public. This innovative art therapy method can not only adapt to China's actual background, but also effectively deal with the psychological problems of the masses.

Keywords : expressive therapy continuum; art therapy; cultural adaptation; mental health; therapeutic intervention

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Introduction

China is one of the most populous countries in the world, and the scale and complexity of mental health problems have attracted much attention. With the rapid development of the economy and the transformation of social structure, people are facing unprecedented challenges. The accelerated urbanization process, the faster pace of life, and the rising competitive pressure have caused many people to face mental health problems such as anxiety, depression, and stress. The Blue Book of "China's Mental Health in 2023" shows that more than 200 million people in China suffer from mental health problems of various degrees, and most of them do not receive timely and effective treatment and support. Mental health problems are particularly prominent in urban areas. Due to work pressure, life pressure and the complexity of interpersonal relationships, many people feel lonely, helpless and even desperate. At the same time, mental health problems in rural areas are also becoming increasingly prominent. Due to lack of resources and information asymmetry, it is more difficult for rural residents to support and rescue in the field of mental health. China's mental health problems have received more and more attention from the public and academia. National mental health is subject to socioeconomic changes, family environment influences and personal cognitive factors. Although there have been improvements in cognition and treatment, mental health still faces major challenges.

Socioeconomic factors are important external conditions that affect mental health. In China, rapid socioeconomic development has brought about tremendous changes in lifestyles, which have had a profound impact on individuals' mental health. Studies have shown that factors such as changes in socioeconomic status, employment pressure, and income inequality may lead to an increase in mental health problems. Ran et al. (2019) pointed out in

their study that due to economic backwardness in rural areas, the treatment access rate of patients with mental illness is low, and they lack the necessary family and social support. In addition, Jin & Tam (2015) found that the relative decline in social status (i.e., relative deprivation) is an important social psychological factor affecting mental health, especially in the context of rapid social change. The stigma associated with mental illness seriously hinders efforts to effectively address mental health issues. According to (Lin Z, 2023) in the book "Beyond the Individual: Intersectional Perspectives on Mental Illness Stigma in China", social stigma is not only pervasive, but also intersects with cultural norms and family expectations, creating complex barriers to accessing mental health services. This social stigma may delay diagnosis, prevent individuals from seeking help, and perpetuate misunderstandings about mental health.

As the first environment for individual socialization, the family has a decisive influence on the mental health of its members. In China, changes in family structure (such as the increase in single-parent families and the prevalence of nuclear families), tensions within the family, and the emphasis on children's education have all had an important impact on the mental health of family members. Ying et al. (2020) showed that during the COVID-19 epidemic, family members of medical staff experienced great psychological stress, especially excessive attention to epidemic information and concerns about the health of family members, which exacerbated the psychological burden on family members. In addition, the strength of the family support system is directly related to the individual's ability to cope with external pressure. As discussed by Lei, F et al., the expectations set within the family. In "Factors Affecting the Mental Health of Chinese College Students", it also significantly affects mental health outcomes. Educational pressure often exacerbates students' stress and anxiety.

Children's mental health problems are particularly prominent in China. With the intensification of social competition and the increase of educational pressure, more and more children have mental health problems such as anxiety and depression. Sun & Buys (2013) pointed out that the psychological pressure faced by Chinese children mainly comes from academic, family and social expectations. Especially in the case of fierce academic competition and high expectations from parents, children's mental health problems are more obvious. In addition, with the advancement of urbanization, the psychological problems of left-behind children and urban only children have also received increasing attention from society. The education system plays a key role in shaping the mental health landscape. Lei, F., et al. outlined how academic pressure and performance pressure lead to an increased risk of mental health problems among college students. This highlights the need for educational policies that support mental health and academic achievement.

China has made significant progress in the field of psychotherapy, especially in adapting Western psychotherapy approaches to China's unique cultural and social environment. These adapted approaches, especially interpersonal psychotherapy (IPT) and cognitive behavioral therapy (CBT), have been widely used to address a variety of mental health issues while reflecting China's unique cultural values.

Interpersonal psychotherapy (IPT) is particularly effective in treating depression. A systematic review and meta-analysis conducted by Tang, L., et al. (2023) highlighted the efficacy of IPT, which focuses on improving interpersonal relationships and aligns treatment with the values of family harmony and social connection that are deeply rooted in Chinese culture. This approach is particularly popular in China, where relationships play a vital role in personal well-being. On the other hand, cognitive behavioral therapy (CBT) has been used to effectively address conditions such as anxiety and eating disorders. The cultural adaptability of CBT is crucial, as it must take into account local eating habits, family expectations, and social norms regarding beauty and behavior. (Chen et al., 2021) emphasizes the need to modify CBT to fit the Chinese cultural and social context to ensure that the treatment remains effective and relevant.

The future development of Chinese psychotherapy is promising. (Ng et al., 2017) discussed the potential of integrating traditional Chinese medicine principles with Western psychotherapy practices. This integration may lead to innovative treatment approaches that are uniquely suited to the Chinese population, combining modern psychotherapy techniques with traditional Chinese philosophical and medical concepts. Despite these advances, these adapted therapies still have limitations. Both IPT and CBT require further customization to fully incorporate the deep-rooted cultural, familial, and individual differences of Chinese patients. In addition, the lack of trained therapists who can master both Western approaches and traditional Chinese concepts limits the widespread application of these therapies.

This context lays the foundation for exploring alternative treatment approaches, such as the expressive treatment continuum (ETC), which may offer alternative benefits where traditional psychotherapy falls short, especially in severe cases where other treatments have failed. These explorations may lead to a more comprehensive treatment framework that meets the diverse needs of the Chinese population in mental health care.

Background of the Expressive Therapeutics Continuum (ETC)

Art therapy, as a therapy that promotes psychological recovery and personal growth, occupies an important position in the field of psychotherapy. The Expressive Therapeutics Continuum (ETC) is a key theoretical framework in art therapy, which provides therapists

with a comprehensive and systematic approach to understand and apply the role of art intervention in the treatment process.

Autism spectrum disorder (ASD) severely impacts children's social development, presenting unique challenges with social interaction and communication. Research has illuminated several aspects of these challenges and interventions that may alleviate them. Children with ASD often demonstrate core deficits in basic social skills, such as eye contact, social smiling, and joint attention, which are critical for the early development of social relationships. However, research by Carter et al. (2005) showed that with appropriate intervention, children can improve these basic social behaviors, emphasizing the potential for growth despite initial deficits. In addition, Silveira-Zaldivara, Özerk, K., and Özerk, G. (2021) The critical role of social skills interventions in enhancing social competence has been highlighted, which has been linked to better outcomes in a variety of areas including academics and interpersonal relationships. Techniques have evolved to include both advanced technology and naturalistic teaching methods, which have proven effective in promoting social skills across different settings (Scattone, 2007). In addition, the role of parents is also critical; active parental involvement significantly influences the development of social communication and emotion regulation in children with autism (Crowell, Keluskar, & Gorecki, 2019). Overall, although the challenges are significant, a combination of targeted interventions and supportive parent practices offers a pathway to improving the social skills and abilities of children with ASD, facilitating their better integration into social settings, and improving their overall quality of life.

ETC's development and application around the world

The ETC model was proposed by Vija Lusebrink in the early 1990s based on her observations of the interaction between art media and psychological processes. The model emphasizes the interaction of different levels in artistic activities, such as sensory movement, emotional perception, and cognitive symbolism, and believes that these levels reflect the activities of different functional areas of the brain. The ETC model provides a structured perspective to help therapists choose appropriate art therapy techniques based on the specific needs of patients. In clinical practice, the ETC model guides therapists to touch and stimulate patients' inner resources through art activities. Through the kinesthetic/sensory level, therapists can help patients release repressed emotions and experiences; at the perceptual/emotional level, the use of colors and shapes guides patients to express and adjust their emotions; the cognitive/symbolic level helps patients explore their deepest thoughts and beliefs through symbols and metaphors; finally, at the creative/integrative level, patients integrate personal experiences through creative expression to promote self-understanding and growth. According to research, ETC has attracted more and more attention and applications since it was first proposed. In many countries, including the United States, the United Kingdom, Canada, Australia, etc., ETC is widely used in clinical practice and treatment. More and more psychotherapists and art therapists incorporate the ETC model into their work to help patients deal with emotional, psychological and spiritual issues. In addition, with the increasing awareness of mental health issues and treatment methods, some emerging markets and regions have also begun to adopt ETC as an effective treatment method, providing more opportunities and possibilities for the global promotion of this model.

As Chinese society continues to progress and develop, people are paying more and more attention to children's mental health issues. As awareness of mental health issues and treatment methods continues to increase, some emerging markets and regions have begun to adopt ETC as an effective treatment method. These regions may face challenges such as lack of mental health resources

and cultural differences, and the flexibility and creativity of the ETC model enable it to better adapt to different cultural backgrounds and treatment needs. In order to meet the growing demand, many institutions and organizations provide professional training and certification courses for the ETC model. These training courses cover the theoretical basis, clinical application skills and practical guidance of the ETC model, providing professional knowledge and skills support for psychotherapists and art therapists.

In many countries, ETC is widely used in the fields of psychotherapy and art therapy. More and more psychotherapists, clinical psychologists and art therapists are incorporating the ETC model into their work and applying it to various populations and clinical situations, including children, adolescents, adults and the elderly. The Expressive Therapy Continuum (ETC) provides a unique and effective treatment method for clients through creative expression and art forms. During the treatment process, clients can explore, express and process their inner emotions and experiences, promoting emotional regulation, cognitive reconstruction and personal growth.

The expressive therapy continuum is divided into the following stages

Kinesthetic/Sensory Level

In his research on the kinesthetic/sensory level, Lusebrink (2010) emphasized the application of the expressive therapy continuum (ETC) in art therapy, pointing out that this level reflects the different functions and structures of the brain in processing visual and emotional information. At this level, art activities focus primarily on direct physical interaction with art materials, such as touch, movement, and intuitive response. This interaction helps develop body awareness and non-verbal emotional expression. For example, using clay or painting can help clients express and process emotions through physical movement and tactile exploration. These activities not only promote the reception and processing of sensory stimuli, but are also important ways to regulate emotions. Lusebrink's research reveals how the use of art media at this level helps therapists assess how clients process information through the different levels of the ETC and how to identify step-by-step transitions between these levels and lateral changes within each level in treatment plans. This understanding enhances the effectiveness of art therapy interventions and promotes further research on art therapy and brain research.

In addition, Lusebrink et al. further elaborated on the interdisciplinary basis of ETC in their 2013 study, including cognitive psychology, art education, and the combination of multiple therapeutic approaches, which provides a more comprehensive perspective for understanding the application of ETC at the kinesthetic/sensory level. This study emphasizes how the ETC model integrates multiple therapeutic approaches from basic sensory experiences to complex cognitive processes, demonstrating the wide applicability and flexibility of ETC in practice.

This is the lowest level of the ETC and involves basic physical actions and sensory experiences. In this level, art activities focus on the physical properties of materials and the sensory experiences when using art materials, such as touch, movement, and intuitive reactions. The kinesthetic/sensory level emphasizes direct physical interaction between the individual and art materials, which can help clients develop body awareness and non-verbal expression in emotion regulation. For example, working with clay or painting can help clients express and process emotions through physical actions and tactile exploration.

Perceptual/Affective Level

The Perceptual/Affective Level is a key level in the Expressive Therapy Continuum (ETC) that delves into the perceptual

processes and emotional experiences of art activities. At this level, art therapy involves not only the stimulation of the senses, but also the deep perception and emotional response to these sensory experiences. This level aims to help clients explore and express personal emotions through art forms, such as color selection, shape, and image composition, which can reflect an individual's emotional state and inner feelings. The main task of the therapist at this stage is to help clients identify and interpret the emotional content of their artwork in order to better understand and meet their emotions and emotional needs.

According to Lusebrink (2010), this level emphasizes how individuals process emotions through perceptual activities in the process of art creation, which is closely related to the structure and function of processing visual and emotional information in the brain. By evaluating the formal elements in the artwork, the therapist can determine how the client processes information at different levels of the ETC, thereby more accurately planning the treatment process, identifying the gradual transition between levels and the lateral changes within each level. In addition, Lusebrink et al. (2013) further discussed the application of this level in their study of the interdisciplinary basis of ETC. They mentioned that ETC combines concepts from cognitive psychology, art education, and a variety of therapeutic methods, which provides a more comprehensive perspective for understanding the application of ETC at the perceptual/emotional level. This study shows how ETC integrates a variety of therapeutic methods from basic sensory experiences to complex cognitive processes, demonstrating the wide applicability and flexibility of ETC in actual treatment. Through these studies, we can see the core role of the perceptual/emotional layer in art therapy, that is, to promote individual emotional expression and emotional integration through perceptual and emotional experiences in artistic activities. This level not only helps clients express and adjust their emotions, but also provides therapists with an important basis for evaluating and planning treatment, making art therapy play a vital role in promoting individual emotional health and psychological growth. This level focuses on the perceptual process and emotional experience in artistic activities. At the perceptual/emotional level, art therapy involves not only sensory stimulation, but also the perception and emotional response to these sensory experiences. This level helps clients explore and express their emotions through art forms, such as color selection, shape, and image composition can reflect an individual's emotional state and inner feelings. Therapists at this stage can help clients identify and interpret the emotional content of their artwork to better understand their emotions and emotional needs.

Cognitive/Symbolic Level

The Cognitive/Symbolic Level is a high level of the Expressive Therapy Continuum (ETC) and focuses on more complex thought processes, including symbolic thinking, abstract thinking, and problem solving. In this level, artwork becomes an important medium for expressing an individual's inner thoughts and concepts. By creating artwork with symbolic meaning, clients are able to explore and express their own ideas, belief systems, and personal and cultural identities. Therapeutic activities at this level help clients process deeper psychological issues through symbols and metaphors, while promoting the development of higher cognitive functions such as reflection and self-awareness.

The study by Lusebrink and Hinz (2020) highlights the similarities between cognitive and symbolic aspects of art therapy and large-scale network systems of the brain. They show that the cognitive/symbolic level functions of the ETC are directly linked to brain networks responsible for adaptive function, psychopathological disconnection, and compensation of functional components. This finding not only enhances the understanding of the art therapy process, but also promotes further research on art therapy and the brain. In addition, Lusebrink's 2010 study explored

how the ETC framework can help understand the application of brain structure and function in art therapy, especially the activity of different brain regions that process visual and emotional information. By evaluating the formal elements in the artwork, the therapist can determine how the client processes information at different levels of the ETC, thereby identifying gradual transitions between levels and lateral changes within each level in treatment planning. This approach enhances the effectiveness of art therapy and makes it a profound psychological exploration tool.

The higher cognitive/symbolic level involves more complex thought processes such as symbolic thinking, abstract thinking, and problem solving. In this level, artwork is viewed as a medium for expressing an individual's inner thoughts and concepts. By creating artwork with symbolic meaning, clients are able to explore and express their ideas, belief systems, and personal and cultural identities. Therapeutic activities at this level can help clients process deeper psychological issues through symbols and metaphors, while also promoting the development of higher cognitive functions such as reflection and self-awareness.

Creative/Integrative Level

In the Expressive Therapy Continuum (ETC), the Creative/Integrative Level represents the highest level of the therapeutic process, focusing on promoting a deeper integration of experiences and achieving personal growth and self-actualization through creative expression. At this level, artistic activities involve integrating perceived information, emotional experiences, and cognitive processing to express and understand one's inner world through a more complex artistic creation process.

According to Lusebrink and Mārtinsone (2013), the recreation/integration level emphasizes the integration of experiences at different levels of treatment through the medium of art to promote the overall growth and development of individuals in terms of emotion, cognition, and social function. The therapeutic activities at this level are not only art creation itself, but also reflection and introspection on the creative process, helping clients gain insight into and reorganize their life experiences and personal values. This comprehensive approach not only enhances the effectiveness of art therapy, but also makes it a powerful tool to adapt to different treatment needs.

Further research has shown that the application of the re-creative/integrative level can stimulate individuals' creativity and imagination through the medium of art, helping them to transcend traditional thinking patterns and explore new ways of self-expression. The goal of this level of treatment is to promote psychological integration and personal transformation through artistic activities, thereby improving quality of life and self-efficacy (Lusebrink, 2010).

The Re-Creativity/Integration level occupies a central position in the expressive therapy continuum and achieves the ultimate goal of treatment - personal growth and self-actualization - by promoting a deeper engagement with the art-making process and psychological integration. The successful implementation of this approach relies on the art therapist's expertise and sensitivity to the client's needs, as well as a supportive and open therapeutic environment, which are key factors in promoting individual progress and change on all levels. At this highest level of ETC, the treatment process focuses on promoting a deeper integration of the individual's experiences and achieving personal growth and self-actualization through creative expression. This level involves the integration of perceived information, emotional experience, and cognitive processing to express and understand the individual's inner world through a more complex art-making process.

The ETC provides a multi-level framework that enables art therapists to choose different levels of intervention methods based on the specific needs of their clients. By flexibly switching between the four levels, therapists are able to fully support their clients' therapeutic process, from basic sensory experiences to complex

symbolic expressions, helping them achieve holistic growth and development in emotional, cognitive, and social functioning. This comprehensive approach not only enhances the effectiveness of art therapy, but also makes it a powerful tool that can be adapted to different treatment needs.

The Expressive Therapy Continuum (ETC) is a foundational model for art therapy that has been recognized for its effectiveness and adaptability in diverse cultural and clinical contexts around the world. As described by Lusebrink (2010), the ETC framework is built around a neuroscience foundation related to brain function and structure, enhancing the application of art therapy by matching therapeutic interventions to the cognitive and emotional processing needs of clients. This alignment is critical to promoting targeted and effective treatment outcomes, making the ETC an important tool in clinical art therapy practice. In addition, Hinz demonstrated through case studies how the ETC can be used to interpret the interaction between clients and art materials, further emphasizing its practical value in determining treatment direction and measuring treatment progress. Lusebrink, Mārtinsone, and Dzilna-Šilova (2013) emphasized the interdisciplinary nature of the ETC, integrating cognitive psychology, art education, and various therapeutic approaches, illustrating the comprehensive applicability of the model and its role in advancing art therapy as a complex therapeutic discipline. Additionally, Nam and Yau incorporated Chinese calligraphy into the framework, demonstrating the flexibility of ETC to adapt to different cultural contexts, highlighting the model's ability to resonate across different therapeutic traditions. General research on ETC emphasizes its role in enabling art therapists to understand and guide clients' interactions with art materials, which reflect their cognitive, affective, and kinesthetic processes. These interactions can provide insights into clients' psychological well-being and inform treatment strategies (Hinz, 2015; Lusebrink, 2010). Broader explorations of the development of ETC emphasize its complexity and potential to promote change through art therapy, which is relevant regardless of cultural context. Overall, these studies advocate for continued exploration and application of ETC, emphasizing its key role in enriching the therapeutic process and outcomes of art therapy around the world.

Cultural compatibility and adaptation of ETC in China

The cultural adaptation of the expressive therapy continuum (ETC) in China highlights the need to integrate Western treatment models with traditional Chinese cultural norms to improve their effectiveness and acceptance. Research has highlighted some strategies and challenges for adopting such models in the Chinese cultural context. For example, by studying foreign teachers in China, a deeper understanding of the complexity of cross-cultural adaptation was obtained, suggesting that similar approaches can promote the integration of therapeutic practices such as ETC by addressing language barriers, cultural misalignment, and building supportive relationships. Guo Feng and Hanley discussed the adaptation of cognitive behavioral therapy in China, emphasizing the need to adjust treatment techniques to conform to Chinese cultural expectations and values, which can be reflected in the adaptation of ETC. In addition, Xue Haofang et al. conducted a study on the digital adaptation of mental health interventions, emphasizing the importance of modifying content and delivery methods to resonate with local cultural preferences and proposed ways to integrate digital and art therapies (such as ETC) to better adapt to Chinese clients. Together, these findings suggest that effective cultural adaptation of ETC in China requires a comprehensive approach that includes understanding local cultural dynamics, carefully modifying treatment content, and adhering to cultural norms to ensure the relevance and effectiveness of treatment.

The ETC model emphasizes intervention through art activities at the sensorimotor, perceptual-emotional, and cognitive-symbolic levels to promote the individual's psychotherapy process. This model has been widely used and studied in Western countries, but in China, due to differences in culture, education, and social environment, the application and research of ETC is still relatively preliminary. Traditional Chinese culture values restraint and collectivism, which may affect the way individuals express themselves and deal with emotions, thereby affecting the implementation and effectiveness of ETC.

With the rapid development of social economy and the accelerated pace of life, people are facing increasing psychological pressure. In this context, mental health issues have gradually attracted the attention of the public and professional institutions, while traditional psychotherapy methods are often limited by cultural and language barriers. As an innovative art therapy method, the Expressive Therapy Continuum (ETC) has shown unique importance in the field of mental health in China. Although its application in China is still in its infancy, the Expressive Therapy Continuum (ETC) has begun to receive some attempts and applications in different fields and scenarios. With the increasing attention to mental health and the increasing recognition and demand for creative therapy methods, the application of ETC in China is expected to be further expanded and deepened.

Pay attention to mental health

The evolving psychotherapy approaches in the Chinese government reflect a growing awareness of mental health needs and the importance of culturally appropriate interventions. Beginning in 1991, Tung emphasized the need to modify insight-based therapy to fit the cultural background of Chinese American patients, stressing the importance of cultural compatibility in therapeutic practice. Hodges and Oeifurther explored the topic of cultural adaptation in 2007, discussing the compatibility of cognitive behavioral therapy (CBT) with Chinese cultural values and advocating for structural changes to the therapeutic process to better serve Chinese clients.

In 2003, Ran et al. demonstrated the effectiveness of a psychoeducational family intervention for schizophrenia in rural China, showing significant improvements in treatment adherence and reductions in relapse rates, indicating the benefits of family-based interventions. Building on this, (Ng et al., 2017) reviewed the status of mental health in China, noting that mental health services have continued to expand and integrate culturally adapted approaches such as CBT due to the increasing demand for mental health care.

Further, for example, the study by Zeng et al., researchers studied specific populations and revealed significant gaps in the knowledge and acceptance of psychotherapy among Chinese cancer patients, but also noted that most patients recognized the importance of psychotherapy after learning about it, suggesting that enhanced education and recognition by medical professionals can enhance treatment utilization. More recently, in 2023, Wei et al. documented efforts to train physicians in psychosomatic medicine and psychotherapy, reflecting institutional initiatives to improve the qualifications of healthcare providers, thereby improving the accessibility and quality of mental health care in China.

This chronological review demonstrates China's ongoing efforts to incorporate psychotherapy into its healthcare system. By emphasizing cultural sensitivity and professional education, China is gradually building a more comprehensive and effective mental health service system. These efforts have not only improved the quality of mental health services, but also helped reduce public misunderstandings and prejudices about mental health issues and promoted social acceptance and cultural adaptation in the field of mental health. This process is a strong testament to the continuous progress and development of China's mental health services, and

demonstrates China's active participation and contribution in the global mental health field.

Discussion

As a comprehensive art therapy framework, the Expressive Therapies Continuum (ETC) has gradually attracted attention in China in recent years. Due to its unique treatment model and methods, the promotion and implementation of ETC in China faces many challenges, but also holds great development opportunities. This article will discuss in detail the cultural challenges, educational and policy environment deficiencies, and opportunities arising from the application of ETC in China, and finally propose corresponding strategic recommendations to promote the healthy development and widespread application of ETC in China.

Challenges

The first challenge facing the promotion of ETC in China is cultural adaptability. Since ETC originates from the Western cultural background, its treatment concepts and methods are different from the traditional Chinese expression habits. Chinese society traditionally tends to be restrained in emotional expression and collectivist values, which is to some extent in conflict with the individual expression and emotional directness encouraged by ETC. For example, the way of freely expressing the inner world through artistic creation emphasized in ETC may be regarded by some Chinese patients as inconsistent with traditional etiquette or too direct. Therefore, how to adjust ETC to be closer to Chinese cultural customs and psychological characteristics without losing its therapeutic effectiveness is an urgent problem that needs to be solved.

In addition, China's professional training and education resources in the field of mental health are relatively insufficient, which limits the training and development of ETC professionals. Although the Chinese government has increased its support for mental health education in recent years, professional art therapists are still very scarce compared to demand. As a treatment model that requires highly professional training, ETC has extremely high professional requirements for practitioners, including the dual professionalism of artistic skills and psychotherapy abilities. At present, there are few related art therapy courses in higher education in China, and related continuing education and vocational training are not popular enough. These are key factors restricting the development of ETC.

Insufficient policy and regulatory support is another challenge that ETC faces in China. In China, the regulations and policies for psychotherapy services are not yet fully mature, and the relevant professional qualification certification, service standards and regulatory mechanisms are not yet sound enough. This not only affects the guarantee of ETC service quality, but also restricts the standardization and professional development of this field.

Opportunities and strategies

Despite the many challenges, the development of ETC in China also faces unprecedented opportunities. With the rapid development of China's social economy and the improvement of public mental health awareness, the demand for psychotherapy services continues to grow, providing a broad market space for ETC. Especially in the current context of high social pressure and frequent psychological problems, ETC's treatment method of emotional regulation and psychological counseling through artistic creation has been welcomed and recognized by more and more people.

In order to seize this opportunity, we first need to strengthen the research on the cultural adaptability of ETC. Through interdisciplinary collaborative research, we can combine traditional Chinese cultural elements with modern psychotherapy theories to

explore ETC application models suitable for the Chinese cultural background. For example, we can combine traditional art forms such as Chinese calligraphy and painting with the ETC framework to develop art therapy methods with Chinese characteristics.

Secondly, it is also crucial to improve the training and education of ETC professionals. We can cooperate with international professional organizations to introduce mature foreign ETC education resources and training systems, and at the same time, open more ETC-related courses and majors in domestic universities and research institutions to cultivate more professionals that meet international standards. In addition, we can also carry out public mental health education projects through cooperation between the government and society to improve the public's awareness and acceptance of ETC.

Finally, seeking more support from the government is also the key to promoting the development of ETC in China. Through industry associations or professional institutions, we can suggest to relevant government departments to formulate targeted policy measures, such as establishing professional qualification certification, providing policy and financial support, and establishing industry service standards, so as to promote the healthy and orderly development of the ETC industry.

The development of ETC in China is a process full of challenges and opportunities. Through the implementation of the above strategies, we can effectively promote the cultural integration, talent cultivation and industry development of ETC in China, and ultimately make a positive contribution to promoting the mental health of the Chinese public.

Conclusion

The Expressive Therapy Continuum (ETC), as the theoretical foundation of art therapy, has not only promoted the academic development of the field, but also greatly enriched the methods of clinical practice. The systematic and flexible nature of the ETC model allows it to adapt to the treatment needs of different patients and is an indispensable tool for psychotherapists in art therapy practice. Although the Expressive Therapy Continuum (ETC) provides a powerful framework for art therapy, its application in China must be thoughtfully adapted to local cultural norms and artistic traditions such as calligraphy. To ensure the successful integration of ETC into the Chinese treatment environment, therapists must be provided with targeted professional training that highlights these cultural differences. In addition, the document calls for systematic efforts in public education to increase awareness and understanding of the benefits of ETC, encourage its acceptance and enhance its efficacy in meeting the mental health needs of China. This tailored approach is essential to the relevance and effectiveness of ETC in China's unique sociocultural landscape.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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About the Authors

Xiaohan Niu

Graduate School of Social and Cultural Anthropology, Hanyang University, Korea

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Research on Cultural Communication Pathways for Constructing Digital Drama on Qinba Ancient Road with AIGC Technology

Hai Bai^{1*}, Jun Deng²

¹*Sichuan University of Arts and Science / Dazhou, China*

*Corresponding author: 334860369@qq.com

Abstract

This paper focuses on the construction of digital theater in Qinba ancient road empowered by AIGC technology, and discusses the creation path, dissemination mechanism and application mode of digital theater in Qinba ancient road. AIGC technology reconstructs the logic of theater creation, such as the narrative structure of digital theater in Qinba ancient road, the audience's interaction mode, and the theater industry chain and other key elements. Through literature research, case study analysis and other methods, based on the theories of dramaturgy and communication, we explore the application path of digital intelligence media in inheriting traditional theater culture, and reveal the opportunities and challenges brought by AIGC technology for the cultural communication of digital theater in Qinba ancient road. Through multi-dimensional research, we focus on the principles of AIGC technology, as well as the future development trend, to provide a theoretical basis and practical reference for the digital preservation of traditional drama.

Keywords: AIGC Technology; Digital Theater; Theater Creation; Qinba Ancient Road; Cultural Communication

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Research Background

China's regional cultures are distinctive, such as Yanzhao culture, Qilu culture, Wu-Yue culture, Jing-Chu culture, Hunan culture, Ba-Shu culture and so on, with different regional characteristics. The "Ba Culture" of the Bayu Culture is the main manifestation of the Southwest Mountain Culture Circle, which contains the core values of loyalty, courage and righteousness, openness and tolerance, and reverence for unity, giving it the cultural genes that have been passed down from generation to generation and will continue to live on forever. Qinba ancient road, as an important channel connecting northwest and southwest China, is not only a hub of ancient transportation, but also a corridor where multiple cultures mingle and converge, carrying thousands of years of historical memory and rich cultural connotations.

However, historically, due to the regional economy, transportation obstacles, cultural changes and other reasons, the research and dissemination of Ba culture is in a tortuous and difficult process, showing marginalization, questioning, shielding and other characteristics. At present, the main problems facing the dissemination and development of Ba culture are the lack of relevant literature, insufficient excavation of relics, small number of Ba culture dissemination professionals, serious cultural faults and old-fashioned dissemination methods. So, how to break through the current plight of Ba culture and promote the sustainable development of cultural soft power in Qinba region? And to find new ideas for the content of the characteristic culture of Qinba, and to find a breakthrough for the dissemination channels is an urgent problem to be solved.

In the digital era, AIGC technology provides a new way and method for the creation and dissemination of digital theater in Qinba Guodao. AIGC technology is capable of generating various types of content, including text, images, audio and video, through artificial intelligence algorithms and models, which provides a powerful support for the creation of digital theater. Through AIGC technology, the virtualized shaping of characters, the digital

construction of scenes, and the intelligent creation of music and sound effects can be realized, which greatly improves the efficiency and quality of the creation of digital theatre. (Zhang, H. 2024) Through data warehousing, data cleaning, data sharing, data circulation and other technologies, the efficient management and utilization of digital drama resources can be realized, providing technical support for the dissemination of digital drama. In addition, through machine learning algorithms, the audience's preferences can be analyzed and predicted, providing a reference basis for the creation of digital theater.

The emergence of AIGC technology provides a unique opportunity for the development of digital theater in Qinba Gu Road. AIGC technology not only helps to inherit and promote the history and culture of Qinba Gu Road, but also provides new ideas and methods for the protection and inheritance of intangible cultural heritage in the category of traditional theater. (Li, M. 2023) In the context of the new era, digital technology should be fully utilized to empower the protection of intangible cultural heritage, and the core essence, essence and connotation of intangible cultural heritage should be supplemented, extended and expanded by taking into account the new development, new requirements and new trends at the international and domestic levels. It should realize the shift from physical space to digital space and from offline protection to a hybrid protection mode combining online and offline.

The research methods of this paper are literature analysis method and case study method. This study has extensively reviewed the relevant literature on AIGC technology, digital theater, and cultural heritage communication at home and abroad. It sorts out the theoretical foundations and research status to gain an in-depth understanding of the origin, development history, core principles, key technologies of AIGC technology, and the current status of its application in different fields. To sort out the development lineage, creation characteristics, dissemination mode and problems faced by digital theater. Through reading the literature related to the Qinba ancient road culture, in-depth excavation of its historical

background, cultural connotation, artistic characteristics and presentation in traditional theater creation, to provide theoretical support for the combination of AIGC technology and Qinba ancient road digital theater. The application of case study method is mainly to select domestic and foreign cases of AIGC technology application in digital drama and analyze their successful experiences and shortcomings. (Wang, L. 2024) Analyze the practical experience and problems of these cases in terms of script creation, characterization, stage design, audience interaction and cultural communication effect. At the same time, we pay attention to the cases of digital theatre combined with regional culture, summarize their success in cultural presentation and dissemination, and provide reference for the construction of digital theatre on Qinba ancient road.

Drama creation with the theme of Qinba ancient road culture is of great significance for the inheritance and promotion of this unique regional culture. Through the theater as a carrier, it can empower the effective dissemination of the history and culture of the Qinba ancient road, help to enhance the audience's knowledge and understanding of the history and culture of the Qinba ancient road, and enhance the sense of identity and pride in traditional culture. (Liu, J. 2023) In terms of the content of the drama, it can show the historical changes, folk customs, regional characteristics, trade and commerce, and historical stories of the Qinba ancient road. In the form of theater performance, it can reflect the lifestyle, emotional world and values of the people at that time through the music melody, performance style, costumes, props and stage sets of the Qinba ancient road, which is also an important artistic carrier for the study of the culture of the Qinba ancient road. (Chen, G. 2024) However, traditional theater creation and dissemination mode faces many difficulties, the creation process is time-consuming and laborious, and the content expression is single, which is difficult to satisfy the aesthetics of the young audience nowadays. In addition, the traditional theater dissemination mode has limitations in terms of coverage and dissemination efficiency. Therefore, the cultural connotation of Qinba ancient road urgently needs to realize innovative inheritance and wide dissemination with the help of modern science and technology.

Digital theater, as a product of combining traditional theater and modern digital technology, is an innovative presentation and dissemination of traditional theater using digital technology. Digital theater not only retains the artistic essence of traditional theater, but also greatly expands and improves its presentation, dissemination channels and interactive experience through the support of digital technology. (Dai, X. R. 2024) In the field of theater creation, AIGC technology can provide creators with a rich variety of creative inspirations and assist them in plot conception and content generation. For example, by studying and analyzing a large number of theatrical works, literary classics and related historical and cultural materials, AIGC system can dig out novel themes, unique plot clues and creative character settings, opening up brand-new creative ideas for creators.

In addition, the use of AIGC to empower digital theater and tell the story of Qinba is an artistic packaging of the existing graphic video visual furnishings. Various scenes produced through VR+AR can be freely switched at will. (Zhang, N. Y. 2012) Technology empowers the content with technology. Broaden the dimension of traditional culture with sound, light and post-production. Ancient Qinba ancestors overcame the Qinling Mountains and the Daba Mountains to open several ancient roads through Sichuan, Shaanxi, Ba and Chongqing, known as the Qinba Ancient Road. The Qinba Road is not only an economic artery, a military thoroughfare, but also a cultural corridor. Using digital media to build a digital Qinba ancient road, so that the "Ba people's myths" and "totem symbols" to go out. For example, using holographic projection and VR+AR technology to create a digital platform, allowing the experience to be immersed in the story of the Ba People's totem. In the virtual VR (AR) world, there will be a specific link for the experiencer to have a dialog with the Ba people in the VR (AR) world, so as to

feel the thoughts and emotions of the people in that era, and to enhance the interactive experience of the experiencer. (Yi, P. 2018) The Qinba Ancient Road Digital Theatre constructed by using AIGC technology helps to break the geographical limitation of traditional theatre, realize global dissemination, and improve the audience's participation and interactivity. Through virtual reality (VR) and augmented reality (AR) technology, audiences from different regions can experience the history and culture of the Qinba Ancient Road as if they were in the ancient Qinba Ancient Road, witnessing the history together with the characters in the drama, and providing immersive experiences for the audience. (Chen, X., & Lin, X. F. 2017)

The purpose of technology-enabled Bayu cultural industry integration is to integrate culture and art with science and technology, so that the traditional marginalized culture can be revitalized, which is conducive to the inheritance and development of regional culture. At the same time, in the process of the formation and development of new industries, it also enables rural farmers to solve the problem of income, which in turn enhances the added value of agriculture and strengthens the sustainable development of the local economy under the development of the overall environment and tourism opportunities.

Theoretical foundations of AIGC technology-enabled digital theater research

AIGC technology is essentially a cutting-edge technology that uses artificial intelligence algorithms and models to drive computers to achieve autonomous creation and content generation. Its core operating mechanism is to conduct in-depth learning and analysis of massive data, which in turn prompts the AI system to accurately grasp and simulate human creative thinking and patterns, and ultimately realize content creation with a certain degree of innovation and uniqueness. Looking back at its development history, early AIGC technology mainly relied on rules and templates to generate content, and the content produced in this way was often characterized by simplicity and pattern. Accompanied by the leap in computing power, the explosive growth of data scale and the continuous optimization and improvement of algorithms, AIGC technology has gradually transitioned to a generation mode based on machine learning. In recent years, the vigorous rise of deep learning technology, especially the wide application of neural network models typified by the Transformer architecture, has become a key driving force for the breakthrough progress of AIGC technology. For example, the GPT series of large-scale pre-trained language models have demonstrated excellent capabilities in the field of text generation, laying a solid foundation for high-quality text creation; image generation models such as GAN have also achieved impressive results in image creation, greatly enriching the generation of visual content. (Huang, Y. L., & Tan, G. X. 2012)

Natural Language Processing (NLP) occupies an important and indispensable position in the AIGC technology system. Its core task is to equip computers with the ability to understand and process human natural language, which covers a number of complex levels such as lexical analysis, syntactic analysis, semantic understanding, and so on. In practice, through the use of word vector representation, neural network modeling and other advanced technical means, NLP can skillfully transform natural language into a numerical form that can be understood and processed by computers, and on this basis, carry out in-depth analysis and processing work. (Huang, Y. L., & Wang, W. J. 2013) This process provides a solid foundation of language understanding and expression for AIGC technology in the process of content generation, and ensures that the generated content has a certain degree of rationality and coherence in terms of linguistic logic and semantic expression.

The emergence of deep learning models has brought revolutionary changes and breakthroughs in AIGC technology. For example, Recurrent Neural Networks (RNN) and its variants, Long Short-Term Memory Networks (LSTM) and Gated Recurrent Units (GRUs), have demonstrated superior performance advantages in processing sequential data, which are particularly suitable for task scenarios such as text generation. (Jing, X. J., & Chen, Y. H. 2012) This is because they are able to effectively capture contextual information and semantic associations in text data to generate logically coherent and semantically sound text content. The Transformer architecture, on the other hand, has been widely used in large-scale language modeling by virtue of its efficient parallel computing capability and excellent long-range dependency processing. It abandons the problems of gradient vanishing or gradient explosion that exist in traditional RNN models, and is able to process all elements in the sequence in parallel at the same time, which greatly improves the quality and coherence of the generated content, and makes the AIGC technology reach a new height in language generation. (Cao, L., & Zhang, L. 2011)

Computational creativity research provides a theoretical framework for understanding the creative generation of AIGC in digital theater creation. Computational creativity aims to simulate the human creative process through computer algorithms, and AIGC technology is based on deep learning algorithms, which learns from a large amount of theatrical works, historical and cultural information, and other data, so as to explore potential creative patterns. In the creation of digital drama of Qinba ancient road, AIGC is able to extract unique cultural elements and story clues from the huge amount of information related to Qinba ancient road, provide novel creative inspirations for script writing, character shaping and scene design, break through the limitations of the human creators' thinking, and realize the expansion and innovation of creativity.

In the field of digital theater, studies related to modern media theory and computational creativity are of key significance in understanding the application of AIGC technology in digital theater. The perspectives of theorists such as Manfred Pfister and Jenny Ray Franks provide important theoretical support for AIGC technology in constructing a cultural communication pathway for digital theater in Qinba Guodao. First, Manfred Pfister argues that the incorporation of digital technology has changed the traditional structure of theater narratives, making the presentation of stories more diverse and flexible. Secondly, Jeanne-Rae Franks focuses on the use of virtual space in theatre, emphasizing the new experiences and interactive methods it brings to the audience.

Manfred Pfister emphasizes the profound impact of digital technology on the narrative structure of drama, arguing that it breaks the more fixed and linear pattern of traditional drama narratives. The narrative structure of traditional theater usually follows a linear pattern, with a relatively homogenous presentation of plot development and character relationships. However, with the introduction of digital technology, theater narratives are no longer limited to a linear approach, and creators can present multiple parallel story lines at the same time through the integration of multimedia elements, such as video, audio, and animation. This multi-line narrative structure increases the complexity and layering of the drama, and the audience can actively participate in the interpretation of the plot and sort out the story logic from different clues, thus enhancing the audience's sense of participation and immersion. In the creation of digital drama in Qinba ancient road, AIGC technology, based on its ability to analyze and generate massive text data, can realize the narrative change mentioned by Pfister. Digital technology provides theater creators with more tools and possibilities, so that the narrative is no longer limited to the traditional linear approach. For example, AIGC can generate a multi-threaded, non-linear story structure based on the rich historical and cultural materials of the Qinba ancient road. Through the excavation and integration of stories of different historical periods and characters on the Qinba ancient road, the plot can

travel freely in time and space, and utilize the techniques of reminiscence and flashback to present multi-layered story contents. This is in line with Pfister's emphasis on the enhancement of audience participation and immersion, and enriches the dimensions of the theatrical narrative.

Jenny Rae Franks, on the other hand, focuses her research on the use of virtual space in theater. She believes that virtual space brings a whole new way of experience and interaction to theater. The stage space of traditional theater is limited and fixed, while the emergence of virtual space breaks this limitation. Through virtual reality, augmented reality and other technical means, theater can create a completely virtual environment, so that the audience seems to be in a completely new world. In this virtual space, the audience is no longer a passive bystander, but is able to interact with the environment and jointly influence the development of the play. In addition, AIGC technology, combined with Virtual Reality (VR) and Augmented Reality (AR), can create a highly realistic and interactive virtual space for the Qinba Ancient Road Digital Theatre. AIGC can generate detailed virtual scenes of the Qinba Ancient Road, such as ancient post stations, rugged mountain roads, etc. The audience can use interactive devices to interact with the virtual space through their hands. (Liu, D., & Huang, J. B. 2016) With the help of interactive devices, the audience can communicate with the virtual characters through gestures and voices, and even influence the development of the plot. This not only realizes the interaction between the audience and the theatrical environment advocated by Franks, but also creates a personalized viewing experience for the audience, making them feel as if they were in the historical situation of the Qinba Ancient Road, and deeply feel its cultural charm. (Pei, Z. L. 2008) This interactivity greatly enhances the audience's sense of participation and entertainment. At the same time, the virtual space can also create more realistic and shocking visual effects for the drama, such as showing fantasy scenes, surreal elements, etc., which brings unprecedented visual impact and aesthetic experience for the audience.

Combined with modern media theory, especially the theory of "participatory culture" proposed by Henry Jenkins, the application of AIGC technology in digital theater can be further explained. According to Jenkins, under the new media environment, the audience is not only a passive receiver, but also an active participant, who participates in the creation and dissemination of cultural products through social media and online comments. In the digital drama of Qinba ancient road, AIGC technology dynamically adjusts the plot by analyzing the audience feedback in real time, so that the audience can participate in the development of the plot in real time, and this interactivity not only enhances the audience's sense of participation, but also provides a new way of thinking and methodology for the creation of the drama. From the perspective of modern media theory, the application of AIGC technology promotes the change of digital theater communication mode in Qinba ancient road. Modern media theory emphasizes the immediacy, interactivity and plurality of information dissemination, and the digital theatre empowered by AIGC technology realizes a wide and rapid dissemination through the network platform. Audiences are no longer restricted by the time and space limitations of traditional theaters, and can watch digital theater anytime and anywhere through various terminal devices. (Peng, D. M., Liu, X. J., & Sun, S. Q. 2008) At the same time, the real-time feedback mechanism supported by AIGC enables the audience to express their views on the drama instantly, and the creator adjusts the content according to the feedback, which realizes the two-way interaction between the drama and the audience and strengthens the dissemination effect.

In summary, based on fully absorbing and developing the theories of scholars and combining the latest advances in modern media theory and computational creativity research, this study aims to build a comprehensive and in-depth theoretical framework to guide the practical exploration of AIGC technology in the cultural

communication path of digital theater in Qinba ancient road. In order to give full play to its potential in the field of digital theater and realize the deep integration and synergistic development of technology and art.

AIGC Technology-Driven Reconstruction Logic of Digital Theater in Qinba Ancient Roads

The Reconstructive Logic of Digital Theatre on Qinba Guodao AIGC technology has given a new life and vitality to the Qinba Ancient Road Digital Drama, which will be analyzed in this chapter specifically from the aspects of narrative structure, characterization, scene construction and stage design, distribution and marketing. First of all, in the process of script creation, AIGC technology can generate a text with the cultural characteristics of the ancient road based on the data of historical materials and folk stories related to the Qinba Ancient Road. On this basis, the scriptwriter can break through the limitations of traditional thinking and dig out potential creative modes and novel plot clues. Optimize the structure of the script to make the rhythm more compact and the plot more fascinating.

Secondly, in terms of scene construction and stage design, AIGC technology uses computer graphics and deep learning algorithms to quickly generate realistic virtual scenes and optimize the lighting, materials, textures, etc. of the scenes. For example, AIGC technology is used to quickly generate the visual effect creative program of Qinba ancient road culture, generating realistic virtual scenes, stage stations, mountains and rivers, ancient towns, etc. on the Qinba ancient road. Then optimize the lighting, material, texture and other details of the scene to enhance the realism and artistic effect of the scene. In the intelligent design of theatrical choreography, lighting, sound effects and other design solutions are automatically generated to bring the audience a very powerful audio-visual feast.

Finally, at the distribution and marketing level, AIGC technology can precisely target audience groups by virtue of its in-depth excavation and precise analysis of audience data, which provides a scientific basis for ticketing management and performance planning by accurately predicting the market demand, and further expands the market influence of Qinbaogudao Digital Theatre. In addition, AIGC technology has brought subversive changes to the audience's interaction mode. In the past, the audience was often a passive receiver of information, and could only make limited comments and feelings after the play. Now, AIGC technology enables the audience to give real-time feedback and form dynamic interaction with the development of the play. (Peng, G. 2009)Audiences can instantly share their personal feelings and insights through mobile devices while watching digital theater, and the AIGC system quickly processes this massive amount of data to provide valuable data support for creators. Creators are able to make real-time adjustments and optimizations to the play, and accurately grasp the audience's needs and preferences. This shift in the mode of interaction not only enhances the audience's experience of watching the play, but also provides a new impetus and direction for the dissemination and promotion of digital theater in Qinba Guodao.

The application of AIGC technology in the field of Qinba Gudao Digital Drama is promising. With the continuous optimization of the algorithm structure and the improvement of computational efficiency, combined with emerging technologies such as quantum computing, AIGC technology will be able to generate faster and more accurate content, and bring the audience a smoother and more realistic theatrical experience. At the same time, the deep integration with virtual reality (VR), augmented reality (AR), mixed reality (MR) and IoT technologies will create more immersive theater scenes and interactive experiences for the audience. (Qin, F., & Xu, J. J. 2015)

In the form of dissemination, it is also possible to expand the digital theater of the Qinba ancient road to the "Qinba ancient road immersive experience hall" and the Qinba ancient road RPG game. For example, an "MMO-RPG" game can be designed, which is a massively multiplayer online role-playing game centered on the Ba culture story. Each audience member is responsible for playing a character, and through exploring a game world that combines virtual and real, the audience can complete the main quests through deciphering, fighting, cooperating, upgrading their characters, and ultimately creating a game world that is uniquely their own. (Ruan, Y. P. 2011)Coupled with wearable VR devices to enhance the game experience, the game allows the experience to be more intuitive and active understanding of the Qinba culture, exploring how the White Tiger saves the trapped Ba people and leads them out of the difficult game world. It allows young people to enjoy the game while paying more attention to the historical heritage of Qinba culture.

Opportunities, Challenges and Prospects of AIGC Technology in Digital Theater of Qinba Guodao

This study thoroughly explores the application of AIGC technology in constructing the cultural communication pathway of digital theater on the Qinba Ancient Road. The study shows that AIGC technology has revolutionized the creation of digital theater on the Qinba Ancient Road, and has demonstrated great potential in enhancing the effect of cultural heritage dissemination and promoting cultural inheritance and innovation.

However, while AIGC technology brings opportunities, it also faces many challenges. First, the issue of cultural authenticity deserves attention. How to maintain the original flavor of the Qinba ancient road culture in the content generated by the algorithm, and avoid the alienation and distortion of cultural symbols, is a key issue that needs to be solved in the application of AIGC technology. although AIGC technology can generate rich content, there may be a lack of understanding of the cultural content of the Qinba ancient road, which may lead to the deviation between the generated content and the real cultural connotation.

Secondly, in terms of public acceptance, part of the audience may be resistant to AIGC-generated digital theater, thinking that it lacks the emotion and temperature of human creation. Traditional theater audiences are used to the realism and interactivity of live performances by actors, and it may be difficult to produce emotional resonance for virtual characters and AIGC-generated dramas, thus affecting the promotion and application of AIGC technology in digital theater of Qinba Ancient Road. How to find a balance between the popularization of the technology and the acceptance of the audience is a challenge for the application of AIGC technology in the field of digital theater of Qinba ancient road.

In addition, in terms of technology popularization, realizing the in-depth integration of AIGC technology and digital theater of Qinba ancient road requires certain technical foundation and equipment support. The lack of VR and AR equipments in some remote areas restricts the audience's access to immersive theater experience, which hinders the application and cultural dissemination of AIGC technology in these areas. (Tan, G. X., & Sun, C. M. 2013)

To address these challenges, corresponding strategies and measures can be taken. First, to ensure cultural authenticity, an expert review mechanism is established. After AIGC generates the content, experts and scholars familiar with the culture of Qinba ancient road are invited to review the content, and any content that does not conform to the cultural facts is corrected. At the same time, AIGC's algorithm is provided with richer and more accurate data to enhance its learning and understanding of the Qinba Ancient Road culture, so as to guarantee the authenticity of the generated content

from the source. Secondly, in terms of public acceptance, organize AIGC digital theater experience activities and invite the audience to participate and experience its charm. Finally, to promote the popularization of the technology, the government and relevant enterprises need to increase investment in the construction of technical facilities, especially in technologically weak areas, to promote VR, AR and other equipment, and to enhance the network infrastructure.

In summary, AIGC technology provides new ideas and methods for the protection and dissemination of digital theater on the Qinba ancient road. In the future, the application of AIGC technology in digital theatre should be continuously optimized to improve the quality and artistic value of digital theatre content, and at the same time, interdisciplinary research should be strengthened, combining the knowledge of multiple fields, such as culture, art, and technology, to further expand the research field. In the context of protecting and inheriting the historical lineage of Qinba culture and inheriting and developing the excellent traditional Chinese culture, give full play to the role of science and technology in empowering the cultural industry, and transform the advantages of cultural resources into advantages in economic development. In addition, in terms of talent cultivation, emphasis should be placed on cultivating students' mastery and application of AIGC technology, as well as critical thinking and artistic creativity, so as to contribute more wisdom and strength to the prosperous development of digital theater in Qinba ancient road.

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Author Contributions

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About the Authors

Hai Bai

Sichuan University of Arts and Science / Dazhou, China

Jun Deng

Sichuan University of Arts and Science / Dazhou, China

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Reimagining Private Museums: Challenging Collecting Ethics and Shaping Public Cultural Practices in China

Juewei Fan^{1*}

¹Department of Department of Anthropology and Archaeology, University of Bristol, UK

*Corresponding author: id22815@bristol.ac.uk

Abstract

This paper explores the private museum accompany by the collecting craze in contemporary China and examines their impact on public cultural practices. It argues that while much existing research has concentrated on revolutionary events or modern art collections, the emergence of private museums challenges traditional museum narratives and offers a new lens through which to understand the evolving political and social contexts. This study provides a new perspective for understanding the psychological and cultural motivations behind heritage collection, emphasising the importance of material cultural attributes in shaping an individual's sense of self-empowerment. It not only sheds light on the practice of cultural relic collecting, but also has far-reaching implications for cultural inheritance and individual identity construction.

Keywords: Cultural Memory, Material Culture, Collecting and Nationalism, Private Art Museum

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Introduction

The rapid expansion of museums in China, often termed the China Museum Boom, reflects both economic growth and shifts in cultural policy. By 2022, the number of museums reached 6,565, a three-hundredfold increase since 1949. While state-led initiatives emphasize museums as instruments of soft power, private investment has also played a crucial role^[1]. Existing research has examined how cultural policies shape private memory post-Mao^{[2][3][4][5][6][7]}, particularly in revolutionary narratives, but less attention has been given to private art museums and their role in shaping discourse on art and history.

This research will examine how collecting has become a major cultural phenomenon in China by tracing its historical transformations and the social identity of antiques. It explores the evolution of collecting practices, their social significance, power dynamics, and cultural capital formation across different periods. This study innovatively considers how the flow of cultural relics is positioned within the key elements of China's collecting moral framework and national sentiment, exploring the roles and impacts of individuals and private museums within the current Chinese cultural context. It reveals how collecting practices serve as a reflection of social values, cultural identity, and historical memory. Additionally, it considers collecting as a form of self-empowerment that challenges grand narratives—collectors reinterpret history and material culture, constructing alternative knowledge beyond mainstream discourse. Ultimately, this study reveals collecting's role in cultural reproduction, social mobility, identity construction, and memory formation.

The Transformation of the Social Identity of Chinese Cultural Relics

In examining the representation and justification of the social meaning of a collector's actions, the material social identity of the collection must also be understood in relation to perceptions of

both the material and public spheres. Moore uses a chart to define the attributes of the four dimensions of the collection and the labels by which aesthetic value is judged (see Figure 1)^[8].

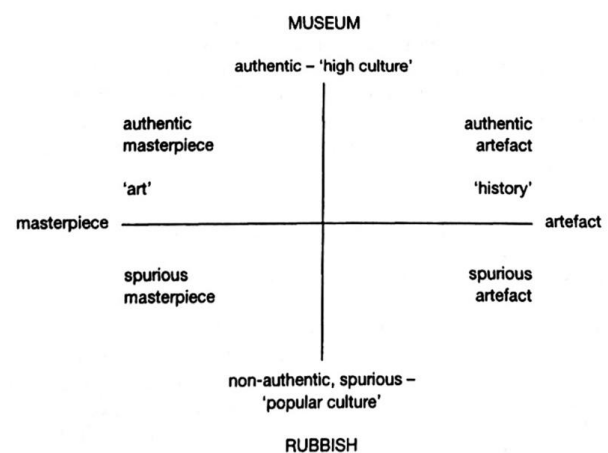


Figure 1: Plotting 'high' and popular culture

Source: Moore cited by Perce (1995) in *Museums and popular culture*

These concepts simultaneously echo Cuno's discussion of the notion of mobility in terms of whose culture the object represents^[9]. Although, there is a lack of clarity as to whether museum collections, as symbols of cultural significance, should be defined as antiquities of modern nations found within their national territories, ancient artifacts of vanished peoples, or as belonging to a universal culture of all humanity without political borders. From this perspective, antiquities are seen as a tangible representation of a nation's culture and history, and therefore, are considered to be the nation's cultural property^{[10][11][12][13][14]}.

It is worth noting that these definitions are often based on a system of perceptions of culture and identity constructed from a Western perspective. In the context of the era marked by colonialist imperial expansion, collectors travelled to foreign countries, gathering local curiosities and exotic objects. The research of Procter provides detailed evidence of how Western collecting practices have greatly benefited from colonial expansion and how they have downplayed the dark conflicts between colonizers and indigenous peoples in museums^[15]. It has resulted in the creation of a new flattened narrative that offers a tranquil set of notations for collections, erasing both their own histories and the original cultural contexts of the artifacts.

In China, the historical process did not undergo the same extensive stages of expansion and exploration of the outside world as seen in the West. The debate concerning the arrangement of collections and cultural ownership within the framework of Chinese practices necessitates deeper contemplation and exploration of the correlation between Chinese collections, material culture, and cultural narratives within its own cultural context. Equally significant is the examination of the values these collections aim to delineate and embody. Since Chinese culture stems from the country's rich historical and cultural heritage, the construction of the self does not need to be based on the subjective construction of the other nation, as is the case in the West. Accordingly, it is necessary to sort out the entangled relationship between material culture and historical narrative from the internal historical contradictions.

The history can be roughly divided into three stages: the period from 1949 to the end of the Cultural Revolution, the period from reform and opening up to the end of the 1990s, and the period from post-2000 to the present. Each stage has been marked by significant cognitive shifts at the level of public perception, as Chinese society has grappled with issues of heritage and national identity. These shifts have included periods of excision and rejection of traditional cultural elements, as well as efforts to reclaim and reinvent these elements in order to reinvigorate national sentiment and cultural identity in the present.

In Chinese history, imperial relics were considered the 'private property' of the emperor, and valuable works of art were believed to be buried with the emperor. The fall of the Qing dynasty also led to a series of problems, such as the loss of the Forbidden City's collections overseas and confusion over the ownership of cultural relics. Tsuyoshi Nojima's work comprehensively summarizes the fate of cultural relics closely related to modern Chinese history^[16]. The Xinhai Revolution of 1911 to 1912 overthrew the Qing dynasty, but the relics remained in the hands of Puyi. Under a compromise with Yuan Shikai, the Provisional President of the Republic of China, Puyi was allowed to remain in the Forbidden City. Puyi continued to sell artifacts afterward, but the scale of the sale was far short of the number of artifacts collected over the ages. When Puyi was expelled from the Forbidden City in 1924 and the Palace Museum was established the following year, a considerable number of artifacts remained in the Forbidden City.

In the dual context of anti-feudal and democratic ideology, the Republic of China (1911-1949) no longer regarded cultural relics as the exclusive property of the state, as past dynasties had, but instead made them accessible to the public, marking the beginning of the Old Palace Museum. The shifting idea served both as a means to promote the "achievements of the revolution" and as a symbolic transformation of relics from imperial possessions to public heritage. However, these artifacts never truly left the realm of political power.

In 1933, as Japan intensified its aggression against China, the government began relocating the Forbidden City's treasures southward. The Republic of China declared that these relics, representing thousands of years of culture, were irreplaceable. Tsuyoshi Nojima noted that while a fallen country might one day be revived, the destruction of culture meant irreversible loss^[16]. After World War II, the artifacts were returned to the National

Palace Branch in Nanjing in 1947. The Great Relocation of Cultural Relics from the Forbidden City stands apart from typical narratives of Chinese heritage. The Nationalist government invested enormous resources in moving these artifacts, not just for their artistic value but for their political significance. In the aftermath of the Chinese Civil War in 1949, Chiang Kai-shek took the Forbidden City's most valuable relics with him—something no emperor had ever done before. Though Chiang had lost control of mainland China, he continued to claim legitimacy as its ruler. At this juncture, a universally recognized symbol of Chinese civilization was needed, and the Forbidden City's relics provided just that. Chiang then applied the logic that the rightful successor to the relics is the rightful ruler of China, reinforcing his belief that Taiwan was merely a temporary seat of government.

Cultural relics are strongly tied to politics. It particularly compelling in a period of destruction of cultural relics in mainland China during the Cultural Revolution. Having gained dominion over the continent, the Chinese Communist Party needed to construct a new set of social ideologies that were closely linked to the new society. The material remnants of the old society were far from assured of their place. Leung argues that what came to be known as the 'Four Olds' were products and reflections of China's feudal and capitalist history^[17], and they had to be re-inscribed or hidden away. As Ho states, 'in Mao's continuous revolution, things could teach class lessons and identify class enemies. It was exhibitionary culture that gave material objects political power'^[5]. The CCP's advocacy of the destruction of the 'Four Olds' effectively tied cultural relics to the old feudal society. Everything from before 1949, especially that which had belonged to the feudal ruling class, was wiped out of all cultural value in the political campaign and was seen as an enemy of the new social order. The CCP legitimized its rule and sanctified the revolution through a series of political propaganda. Collecting objects produced by the old society, generalized as antiques, seems to go against the idea that the era needed to be widely publicized.

In the private sector, heritage collecting has become an effective form of investment. Not only does it have the attraction of being a cultural attraction, but it is also a way of wrapping up one's social status and unique aesthetic standards with the cultural values that are embedded in cultural relics. For the national level, reinventing the value of heritage is also capturing the value behind the prosperity of exquisite artefacts. In addition, the opening up of the art market and the interest in the return of lost cultural objects from abroad after the reform and opening up has had a multifaceted impact on reshaping national cultural identity and constructing the social significance of cultural objects. On the one hand, the state used the loss of cultural artifacts to re-emphasize the narrative of the history of resistance against Western colonialists, in order to construct an antagonistic relationship between indigenous culture and foreign invaders to strengthen national identity. On the other hand, private collectors acquired lost Chinese cultural artifacts through high-priced auctions in the market and brought them back to China, making the value of antiques not only cultural and national but also a high-value attribute measured in monetary terms.

The narrative evidence for historical artifacts comes from the memory of the past, but the debate has always been about whose point of view the integration of memory expresses. Kavanagh notes that 'working with memory opens up many possibilities for historical exhibitions'^[18]. The reason why objects were collected was originally an act of human choice, driven by the social context of the time and the values it shaped. As the original context disappears, so does the basis for the collector's choice at the time. Social perception, therefore, requires a counter-process to decipher the motivations of people collecting at the time, thus enabling the reproduction of information on value judgments in order to reconstruct a picture of nature and society. On the other hand, in addition to the information presented horizontally, objects are also superimposed with information about the passage of time during the turbulence of generations, leaving behind objects that, even if

decoded and encoded, still do not restore the true history, but are only fragmentary reproductions of real information. It is believed the heritage industry is an example of the politics of recognition that gives value to monuments, objects and intangible heritage. It makes intangible cultural and historical responsibilities tangible by emphasising the significance of cultural objects. The continuity of historical culture and the age of national prosperity are founded on the assertion of an essentialist past and the purification of cultural origins, and the development of the heritage industry helps to reinforce this idea. By reinventing the value of heritage, it captures the value behind the prosperity of exquisite artefacts and revives the present with the glories of the past, which is particularly significant for the national confident.

Museum and Grand Narrative in China

Before delving into the various factors behind the emergence of private museums in China, it is crucial to provide a contextual understanding of the development of museums. It is necessary to examine how previous studies have characterized the narrative tone through which museums have been shaped, defined, and integrated into China's overarching plan for historical and heritage-based national cultural development coordination.

Like Lu mentions that museums in China occurred mainly as a result of internal and external conflicts, westernisation and colonialism in the late nineteenth century, and as such were never established merely for enjoyment and leisure^[4]. As a foreign concept, the development of museums in China has been accompanied by conflicts and compromises between the ideologies of China and the West, but most importantly, the edifying role of museums has been inherited and preserved intact in China. As sites of production, circulation, and consumption of visual culture, museums have become state instruments of nationalism and have been used by Asian postcolonial states as instruments of modernization. Along with the rise of indigenous nationalism and resistance to a history of Western invasion, they created distinctive local discourses that approached the effectiveness of museums with a universal discourse that was epistemologically and ontologically identical to their Western counterparts.

There have been a series of studies on the development and changes of Chinese museums in the past century. Museums in China became a pivotal institution in the process of national construction, and the CCP was the sole designer of this construction. When reviewing the history of the development of Chinese museums, former researchers point out that museums are foreign products imported into China by the West. They were utilized by Chinese elites as a tool to promote civic education and popularize the knowledge and classification methods of modern science.

Since 1949, the CCP has promoted the recontextualization of memories of life in the pre-Communist China, often referred to as the 'old society', into an entirely different framework. The Western-style education methods in the museums were also eliminated and abandoned, and the development of the museums was considered an achievement brought about by the communist rule. Consequently, the content, form, goals, and focus of museums have been (re)designed to meet the requirements of new ideologies, with political education being the primary function.

If the government represents an authenticator that narrates the historical cultural heritage and spiritual profile of the nation, it is also worth considering which rights and technologies are utilized to support economic development and policy in this system of heritage, and how they contribute to the discursive construction of material evidence that presents the values and ethics that the government intends to convey and promote.

Wang points out that all historical accounts and analyses of China contain two narratives of China: a narrative of China as empire and a narrative of China as nation-state^[19]. These two narratives are entwined with various modes of research often

proposed in China studies, including stimulus and response, tradition and modernity, imperialism and local history orientation.

It can be argued that in China, the perspective of looking back has always contained instances of the spirit of encompassing. There are two levels of meaning implied. First, the collective memory and overall image of the nation is invoked by the representational role of the material. Second, the narrative context that has been publicly recognized and disseminated in China has always been in the name of the collective. In the Chinese museum context, any collection that bears witness to China's historical narrative is encapsulated as a national cultural object. Indeed, this concept is always in a quandary of value judgement. Varutti claims that 'remembrance, collective memory and historical evocation play a central role in the Chinese political and social present'^[20]. It also corroborates with the idea that China was not created by the Han or any other ethnic group on its own, nor were its boundaries defined by a single place of historical activity of one ethnic group, let alone by the will of one of its elite groups. It was a complex series of historical movements that came together to build a community of human beings distinct from the rest of the world - the Chinese nation.

The work of Lowenthal testifies the significance of the past for those in the present and to the fact that objects as witnesses foreshadow a tangible experience as an important way of bringing the past into history^[21]. The interest in heritage and the explosive growth of museums are ongoing social phenomena that go hand in hand with economic and policy adjustments and transformations. The work of Jimenez and Lord have summarized the two main factors behind the museum boom are rapid economic development and urbanization with the fact that both factors lead to social change and profound changes in the way humans value and view the world^[1]. Additionally, the development of Chinese museums has benefited from the favourable financial and cultural policies, and the increase in the budget allocated to culture is crucial to the development of museums.

Unlike public museums, which have an overt cultural responsibility to the public, private museums often have a specific focus or theme that reflects the interests of collectors. Extant analysis of the reasons for the rapid rise of private museums in the museum world can be summarized in two main areas. One reason that can be summarized is centered on collections from private collectors. As an up-and-coming wealth group, they seek to further their personal reputation in the public sphere while managing their wealth and acquiring cultural significance. Adam notes that the change in access to wealth has further changed the way museum donors' approach cultural philanthropy, which was once mostly through family inheritance, but is now more through self-made efforts^[22]. As a result, they desire more control over their financial and cultural acquisitions rather than handing them over to public institutions. Another reason is the desire of private museum founders to play the role of chroniclers and witnesses of historical events, using private emotions and material evidence of memory to provide alternative evidence and perspectives on a historical event which might be characterized by a collective narrative in the ideology of political interfered. This type of museum intends to liberate history from its dominant position in official political and historical discourse, as exemplified by museums such as the Jianchuan Museum Complex or The Museum of Revolutionary Soldiers Imprisoned by the Enemy.

By recognizing and supporting cultural diversity, private museums can play an important role in shaping a more inclusive and representative cultural landscape. The research of Zhang and Courty show that the apparent growth of museums in China that occurred in 2007 is testament to the power of government policy in shaping the expansion of museum influence^[23]. The massive increase in the number of museums in China was largely orchestrated by the central government as part of a policy to support, develop, and control culture. A major policy shift in 2007 saw a significant reduction in admission fees and a shift in the revenue stream of most museums from a partially user-based model

to one that is almost entirely publicly subsidized. Interestingly Hu Jintao, the General Secretary of the CCP from 2002 to 2012, proposed to enhance the soft power of Chinese culture at the 17th Communist Party Congress in 2007. This elevated Chinese culture to the level of an important source of national cohesion, creativity, and an increasingly significant factor in the competition for comprehensive national power, marking the first instance of such a proposal. Hu's efforts in the 'scientific concept of development' redirected the economist or developmentalist policies of his predecessor, which focused solely on GDP growth, towards more balanced reforms to address growing social disparities, injustice, and popular discontent. Museums are placed in a politically strategic position, at the same time private museums are allowed to become a cultural complementary resource.

The differences in values and discourse rights do not make the boundaries between public and private clear and non-aggressive. On the contrary, there are many closely related interests. As Oakes defines these public cultural spaces as the concept of new urban leisure spaces^[24]. Leisure is promoted in China as a form of social order, and the government regards it as part of the spatial mechanism of national social order. Leisure is thus seen as part of a set of governance techniques designed to shape the behavior of Chinese citizens in specific ways and to achieve specific normative goals of the state. This also confirms that as Luo points out, the differentiation of cultural politics and visual ideology in the policy guidance of urban construction has made the phenomenon of urban art museums become a competitive landscape that highlights the performance of local governments^[25]. However simply viewing private museums as a generalized, labeled cultural institution creates a gap in research regarding the private attributes of private museums and the role of the individual. It is necessary to explore the role played by private collectors in shaping the private museum and the influence of their personal agency.

Collecting, Elite and The Control of Taste

Since the material basis of all private museums begins with the personal collection. Collectors play a significant role in taking objects out of their original cultural contexts, deconstructing and reassembling them in new cultural environments and physical spaces. Collections allow a two-way relationship and interaction between individuals and objects, as well as between objects and the museum. It presents a distinct departure from the traditional museums where the process of collection is often invisible, and the arrangement of objects is merely presented as a one-way narrative for public education. Muensterberger defines collecting as 'the selecting, gathering, and keeping of objects of subjective value'^[26]. Despite that, collecting is more complicated than the above wording suggests, and has become a complex activity requiring a great deal of skill. As it summarized by Cardinal

'To collect is to launch individual desire across the intertext of environment and history. Every acquisition, whether crucial or trivial, marks an unrepeatable conjuncture of subject, found object, place and moment. In its sequential evolution, the collection encodes an intimate narrative...'^[27]

Besides, it is worth noting that collecting is not a behaviour that is universally adopted at the public level. In ancient times, collecting was regarded as a privilege of nobles and royals. Nowadays, collecting is typically associated with individuals who have a certain level of wealth and expertise in the areas related to their collections. Collecting is often considered a serious and selfless way of allocating money, although it may require a significant investment of time. McIntosh and Schmeichel define collector as someone who is motivated to collect a series of similar objects that have no practical value to the collector, or where the person does not intend to dispose of the objects immediately^[28]. Private museums offered wealthy collectors' alternative venues and

presentations that were seen as a departure from the established exhibition conventions of the public museum sector, or even from the intimate domestic environment of previous generations. Additionally, collectors establish their own spaces to display their treasures and preserve the integrity of their collections, while fulfilling their philanthropic purposes.

Private collectors who bring their collections into the public cultural discourse by opening private museums are undoubtedly projecting their own aesthetic intentions onto the objects, while at the same time being among the constructors of the public cultural order as owners and spokespersons of the objects. The most crucial step to complete the wealth management is to open to the public for a beneficial interaction. They seek a display of identity and taste, to be seen by the public, to be tied to a reputation for refined culture and art. In fact, many museum feats began with the incomparable contribution of a single person whom Alexander called the 'Museum Masters'^[29]. By using their knowledge and wealth, they have changed the nature of museums as a spatial platform that guides audiences to participate in experiences. The fact that museums have become synonymous with cultural and social responsibilities also makes these personal values always known as contributors to the society together with museums.

Therefore, the elitist culture carried by art museums has become an independent boundary within the scope of museums. While they claim that museums represent carefully constructed historical facts and world diversity, knowledge and educational functions are far less desirable for art museums than visual enjoyment. If antiques and other artistically adorned symbols of wealth and power which museum display are based largely or exclusively on aesthetic value criteria, visitors may receive the message that owning equivalent objects may form a gateway to upper class or a legal path to become socially recognized. The identity differences that museums try to eliminate are essentially being used again by the emerging power class.

Knowledge, taste, and appreciative ability shaped by educational background have inevitably become the basis for judging class and origin. According to Bourdieu, art museums play a key role in the production and reproduction of cultural capital and social inequality^[30]. He argues that the art world is dominated by a small group of cultural elites who have access to the institutions, networks, and knowledge required to produce, curate, and display art. The elites control the selection of what is considered good or valuable art, and they use their cultural capital to reinforce their own power and status. As a result, art museums and the exhibitions they curate serve to reinforce existing social hierarchies and exclude those who lack cultural capital. Museum not only represents a new method of understanding the world centered on objects, but also represents an aesthetic spiritual pursuit standard agreed by social capital.

While private museums offer a personalized approach to the display and interpretation of collections, it is important to recognize that they are not entirely separate from established museum practices. Art museum or gallery inevitably affects the artistic interests and humanistic values of the public. Nevertheless, the deepening relationship between the wealthy and the government involved behind private art institutions, and the fierce competition among the wealthy and local governments, make it worthy to consider and explore further how they cultivate public opinion in the public sphere and what values they seek to define and embody.

The Ethics Debate Between Cultural Authority and Self-Empowerment in Chinese Collectors

It is evident that collectors, in their pursuit of acquiring objects, also seek to assert control over the enduring meaning associated with them. Unlike in the West, where upper-class aesthetic tastes are often passed down over time, some studies suggest that Chinese

businessmen who collect art and artifacts prefer to express their commercial success through pure self-expression, using their wealth to acquire and control these works. Luo states that after the establishment of the PRC, social resources were redistributed through a reformed cultural and economic system^[25]. Scholars were left in a position of powerlessness while those in business were entrusted with shaping the socio-economic drivers that could lead China into the modernization process. In this economic and cultural environment, the identity of collectors, who had both cultural and wealthy idiosyncrasies, shifted from literati with a discerning eye for art to a new noble class that benefited from the practice of Reform and Opening up. Luo further pointed out that since the upsurge of art collection in China is almost completely imitating the operation mode of the West, and the development of art in China does not have a clear development context like the West^[25]. For this reason, most collectors have not received systematic art education, so the choice of art as a collection often involved a businessman's preference.

In the context of the ongoing debate surrounding the definition of the collector in China, the unique taste has become a fluid benchmark for cultural aesthetics, awaiting further exploration in the current discourse. Collectors and their collections mutually define and achieve each other, with their choices not only influencing the cultural value of the objects but also shaping the public's aesthetic judgments through their influence and choices. The ensuing discussion revolves around whether collectors, in using museums as a means to disseminate public cultural discourse, seek to enhance their own prestige or emphasize the authentic cultural presentation of the objects themselves. Sigg came up with 'a Typology of Collecting' based on his observation of both public and private in China, systematic and sporadic collections. The classification of five collection preferences (the 'I Like Art' Style, the 'Investment' Style, the 'Status Symbol' Style, the 'Focused' Style, and the 'Networked' Style) based on his observations further illustrates that what most Chinese collectors pursue is to be able to afford anything they like that is considered valuable^[31]. The categories of purchases lie within their own tastes rather than within any coherent conception. In addition, the behavior of purchasing and collecting could often bring more benefits such as business, contacts and social reputation that have less relevant with art itself. Therefore, it is necessary to examine whether the existing generalizations about Chinese collectors in discourses can be applied to the diverse range of collecting categories in the future.

As more collectors establish their own museums, it is not difficult to see the trend of power and taste at the center of the global art market shifting from the West to China. They have great ambitions to build commercial or cultural empires. In particular, the rapid economic development of China in the last two decades has led to the emergence of a critical mass of entrepreneurs in the art investment and cultural industries. Rather than inheriting aesthetic tastes, they tend to show their commercial success through self-expression and use their wealth to acquire and control art. With the accumulation of more and more works of art, Chinese collectors have begun to generate a will to power in the art field. It can be regarded as a process of self-empowerment, establishing their own discourse power in China and even in the world, and expanding this power from the economic field to the social and cultural field. As Ćirić states that due to the privatization and corporatization of art fields, the relationship between culture and the market became indistinct^[32]. In addition to numerous restrictions on artistic creation imposed by the Chinese government, efforts to establish a new public sphere, as envisioned by artists organizing exhibitions, were eradicated. As a result, private art institutions (whose founders were mostly collectors) became the owners of a discourse that influenced public culture.

The needs of Chinese businessmen on the cultural level are not limited to personal preferences and the pursuit of taste in the art world, which also implies the metaphor of nationalists who hope that their personal strength can contribute to the cultural life of the

entire nation. In the Confucian-influenced social fabric of China, one of the most prominent features of national character is the belief that individual achievements should contribute to the collective progress. As Yang concludes that the importance of social networking, known as Guanxixue (关系学) in Chinese, further reinforces the interconnectedness of individuals and the collective^[33]. A good reputation not only helps an individual to gain social recognition and prestige, but also provides an advantage in building trust and co-operation in business and social interactions. In the Chinese business environment, an individual's reputation and network of contacts are often seen as very important resources that provide businesspeople with greater access to opportunities and resources, which in turn contribute to business success and collective prosperity.

Another evidence-based phenomenon that makes private values intervene in social influence is the return of Chinese cultural relics lost overseas by Chinese private collectors through high-priced auctions. Chinese private collectors intervening in the return of Chinese cultural relics lost overseas through high-priced auctions can be viewed as a reflection of the importance placed on cultural heritage and national pride in Chinese values. Due to the fact that cultural relics are seen as an important symbol of a nation's history and identity, so their loss or removal from the country is seen as a loss of that cultural identity. In the modern history of China, in the face of internal and external challenges, China's sovereignty has been violated, and the Chinese government has failed to protect Chinese cultural heritage. For some scholars, the reaffirmation of cultural loss in modern Chinese history is now serving the ideological needs of the post-imperial Chinese government to maintain Chinese independence and unity. In addition, affirms that cultural relics are considered tools of Chinese cultural identity due to their close relationship with Chinese history and culture, which provide an important source of self-definition for Chinese people. When Chinese private collectors intervene in the return of cultural relics, they are not only satisfying their personal values and beliefs but also setting an example of shaping the values of cultural heritage and national pride in Chinese society, as well as the power of social norms and peer influence.

The struggle between private collectors and the government over the value of cultural resources following the intervention of private collectors in the public discourse is a war of symbolic capital that reflects the struggle of social actors in the construction of the self, for the discourse and the construction of national values. On one hand, it can be argued that the focus on the value of cultural resources is indeed a reflection of a war of symbolic capital, as cultural relics hold immense symbolic value in terms of national identity, heritage, and historical significance. In this sense, the contradictory position in the return of cultural relics is not just about the physical objects themselves but are also symbolic battles over the representation and control of cultural heritage. In this sense, the contradictory position in the return of cultural relics is not just about the physical objects themselves but are also symbolic battles over the representation and control of cultural heritage. The debate is deeply rooted in concrete issues of ownership, legality, and ethical considerations. The ownership of cultural relics may be disputed due to historical events such as colonialism, theft, or looting, and their return often involves complex legal processes and negotiations.

In this reciprocal and utilitarian fluid relationship, private museums are not merely repositories of artworks; private collectors also gain greater agency in the preservation and interpretation of cultural heritage. They not only bear moral responsibilities but also continuously shape their own social identities in the process. However, this moral pursuit is inherently dualistic. On one hand, collectors demonstrate a sense of national responsibility and cultural consciousness by acquiring lost cultural relics, positioning themselves as key participants in the narrative of cultural revival. On the other hand, their actions remain constrained by the capital logic of the art market and embedded within the imagined

prosperity of the cultural revival community. Within this paradoxical tension, private self-empowerment emerges as a process of cultural capital accumulation that oscillates between state authority and public interest—both relying on the national discourse framework and navigating the negotiation between market logic and personal agency to construct their own cultural authority.

Conclusion

Existing research on Chinese museums largely focuses on revolutionary events or the management of wealth by collectors of modern art, with little attention given to how private museums of ancient art, addressing historical narratives, can shape public cultural practices. This raises important questions about the role of private museums in redefining the competitive cultural soft power agenda and their classification within the Chinese context. This research seeks to explore the rise of private museums in China, emphasizing their influence on cultural practices, particularly how they empower collectors and contribute to the construction of social identities. It delves into how the rapid emergence of private cultural sectors challenges traditional collecting ethics and shapes public cultural engagement, highlighting key issues such as artifact legitimacy, authenticity, and ownership transparency. Private museums, as dynamic agents of cultural change, are not merely spaces for displaying art; they actively shape public perceptions of culture and aesthetics. Through diverse, sometimes controversial collections, they challenge conventional understandings of cultural values and historical narratives. This dynamic role underscores the transformative potential of private museums in contemporary Chinese society. Moreover, the distinction between private and public museums reveals significant differences in cultural rights and social responsibilities, offering insights into the intersection of museum culture with commercial and private interests. Their profound impact on China's cultural landscape plays a pivotal role in the redefinition of cultural authority, alongside the self-empowerment of collectors, ultimately shaping their social identities.

Future studies on private museums in China could focus on several key areas. A deeper exploration of the legal and ethical dimensions of private collections, particularly regarding the provenance of artifacts and their implications for cultural heritage preservation, would be invaluable. It is worthy to examine how these museums navigate the fine line between commercial interests and cultural responsibility, especially considering increasing global scrutiny over cultural ownership. Specific case studies involving behind-the-scenes observations of private museums could offer valuable insights into the practical challenges and decision-making processes these institutions face. Besides, longitudinal studies tracking the growth and evolution of private museums over time, along with changing public perceptions of these institutions, could provide important insights into the future trajectory of cultural practices in China. This could include analyzing the relationship between private museums and the broader museum sector, especially in terms of collaboration, competition, and policy.

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About the Authors

Juewei Fan

Department of Anthropology and Archaeology,
University of Bristol, UK

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Adaptive Customization of Electronic Commerce Packaging for Sustainable Business Development

Shenglin Liu^{1*}, Gongchao Wan²

¹College of Science and Technology, Ningbo University, Ningbo, Zhejiang, China

²Graduate School of International, East Asian Studies, Hanyang University, Korea

*Corresponding author: shenlyn575@gmail.com

Abstract

To address the growing demand for sustainable practices in e-commerce logistics, this research explores the innovative application of the NSGA-II algorithm for customized packaging optimization in distribution. A novel unconstrained mixed-integer linear programming mathematical model was developed and integrated with the NSGA-II algorithm to optimize packaging design dimensions and material properties. The approach emphasizes flexibility, compressibility, and adaptability to achieve an optimal balance between resource efficiency and product protection. Through rigorous simulation experiments, the NSGA-II algorithm demonstrated significant material savings while maintaining packaging integrity, achieving reductions of 1.87% in packaging quantity, 8.97% in volume, and 3.33% in weight. The results underscore the model's alignment with e-commerce objectives of cost reduction and environmental impact minimization, offering a scalable framework for resource-efficient and sustainable distribution packaging solutions.

Keywords : Adaptive Customization, Electronic Commerce, NSGA-II Algorithm, Unconstrained Mixed-integer Linear Programming

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Introduction

The rapid expansion of e-commerce has significantly influenced consumer shopping habits and reshaped the global economic landscape. Analysts project that e-commerce market penetration could reach as high as 25% by 2026, underscoring the ongoing shift toward online retail [1]. Between 2015 and 2018, the proportion of online purchases rose from 32% to 43% [2], highlighting this trend. However, the environmental implications of e-commerce, particularly in logistics and packaging, have become increasingly concerning. Research indicates that the last-mile delivery phase of e-commerce operations is a major contributor to carbon emissions and energy consumption [3, 4]. Consequently, there is an urgent need for innovative and sustainable packaging solutions to mitigate the environmental challenges associated with the sector's rapid growth [5]. The rapid expansion of e-commerce and express delivery services has transformed global logistics while introducing significant environmental challenges. In 2017, China alone reported over 40 billion express deliveries, a figure projected to climb to 70 billion annually by 2020 [6]. This dramatic increase in express delivery has resulted in a substantial rise in packaging waste, much of which is non-degradable and improperly managed. Research indicates that packaging materials commonly used in express delivery, such as plastic, polystyrene, and PVC, contribute significantly to municipal solid waste and pose severe environmental risks [7]. Although recycling is crucial to addressing this issue, recovery rates remain alarmingly low, with less than 20% of express packaging materials being recycled in China [8]. This exacerbates pollution, particularly due to over-packaging practices, where excessive amounts of tape, cushioning materials, and oversized containers are used beyond what is necessary to protect products [9]. Without effective interventions, packaging material consumption in China is projected to reach 41.3 million tons by 2025, posing serious threats to environmental sustainability [10]. In response to these challenges, China has introduced the "Fourteen-Five Year Plastic Pollution Control Action Plan," which aims to reduce disposable plastic usage, encourage recyclable

packaging, and enhance sustainability within the express delivery industry [11]. Therefore, the urgent need for sustainable packaging solutions and effective regulatory frameworks to mitigate the environmental impacts of the rapidly growing express delivery sector.

In the context of practical e-commerce environments, packaging optimization is of paramount importance. Zhou, in her study, highlights several issues in logistics packaging within the e-commerce sector, including the lack of standardization in packaging design and difficulties in selecting appropriate materials. As the e-commerce market rapidly expands, one of the key challenges lies in making packaging designs more adaptable and environmentally friendly [12]. Subsequently, Zhang analyzed the issue of green logistics packaging in e-commerce, proposing strategies to address it. She emphasized the selection of green materials in packaging design and the optimization of transportation processes to reduce excessive packaging and achieve environmental goals. However, a significant challenge in practical application is finding a balance between the eco-friendly characteristics of packaging materials and constraints related to costs and production limitations [13]. Furthermore, Zhao et al. researched the development of green e-commerce packaging under the "dual carbon" goals in China. They argued that the implementation of green packaging design requires innovation and optimization in the packaging material supply chain. Nevertheless, the procurement of packaging materials and supply chain management remain challenged by high costs and complex logistics [14]. On the international front, Gurumoorthy et al. proposed a packaging type recommendation system for e-commerce shipments, utilizing machine learning algorithms to suggest the most suitable packaging for different products, thus reducing packaging waste during transportation. However, ensuring the feasibility of this system in real-world applications, particularly when dealing with a diverse range of product demands, remains a question that requires further exploration [15]. In addition, Yang et al. examined a machine learning approach to shipping box design. They argued that machine learning algorithms can effectively optimize box sizes and designs, enhancing the utilization of

packaging space and reducing transportation costs. However, the key challenge to the broad applicability of this method lies in overcoming the adaptability issues of the algorithms across various e-commerce platforms [16]. Despite the numerous optimization strategies proposed in existing research, implementing adaptive packaging optimization in practical e-commerce environments still faces considerable challenges. To resolve these issues, it is necessary to integrate additional technological tools and industry experience.

In order to solve the sustainable optimization of e-commerce packaging, Martin et al. developed a location-flexible approach utilizing logical operators to minimize container volume when packing rectangular boxes. This method demonstrates competitive performance compared to traditional Mixed-Integer Programming (MIP) models, efficiently delivering both optimal and feasible solutions [17]. Similarly, Yang et al. proposed a Variable Neighborhood Descent Space-Ordering Algorithm (VND-SOA) integrated with an MIP model to optimize multi-order, multi-box packing. By incorporating constraints, their approach enhances packing efficiency and box size optimization [18]. In addition, Xin et al. emphasized that in container loading, weight limitations are often more restrictive than volume, and proper weight distribution is crucial for maintaining stability during transportation [19]. However, both methods exhibit high computational complexity and extended processing times, which limit their application for rapid packaging optimization within express delivery systems.

To overcome these challenges, Fang et al. introduced a Sequence-Transfer-based Particle Swarm Optimization (ST-PSO) algorithm, which employs transfer learning and adaptive adjustment strategies to improve packing efficiency, minimize waste, and reduce processing times. This approach has demonstrated significant potential in industrial applications [20]. Furthermore, Zhang et al. through a multi-objective genetic

optimization algorithm, offer a novel perspective on packaging solutions by balancing cost and spatial utilization efficiency [21]. Then, Kucukyilmaz and Kiziloz proposed a Cooperative Parallel Grouping Genetic Algorithm (IPGGA), which leverages an island model to enhance solution quality and computational efficiency. By optimizing migration strategies and diversification techniques, IPGGA outperforms traditional genetic algorithms, delivering superior performance in complex packing scenarios [22].

However, these methods primarily focus on improving packing efficiency without explicitly addressing waste reduction in packaging materials. In response to the rapid growth of express delivery volumes and the sustainability demands of e-commerce development, this study proposes an innovative three-dimensional packaging optimization mathematical model. By applying the Non-Dominated Sorting Genetic Algorithm II (NSGA-II), the model aims to optimize packaging, reduce material usage, and enhance the sustainability of e-commerce practices.

The remainder of this paper is organized as follows. Section 2 introduces the unconstraint mixed-integer linear programming model developed in this research and explains the operational mechanisms of this approach. Section 3 describes the construction and objectives of the NSGA-II model. Section 5 and 6 presents the experimental results of the proposed model and methodology, concludes the research.

Methodology

The 3D packing problem for express delivery is an NP-hard problem. To optimize packaging utilization in logistics, this research assumes that the length, width, and height of items can be interchanged freely. For any item that cannot fit into the packaging material in any orientation, it is excluded from consideration. Consequently, each item can be packed in six possible orientations, as illustrated in Figure 1.

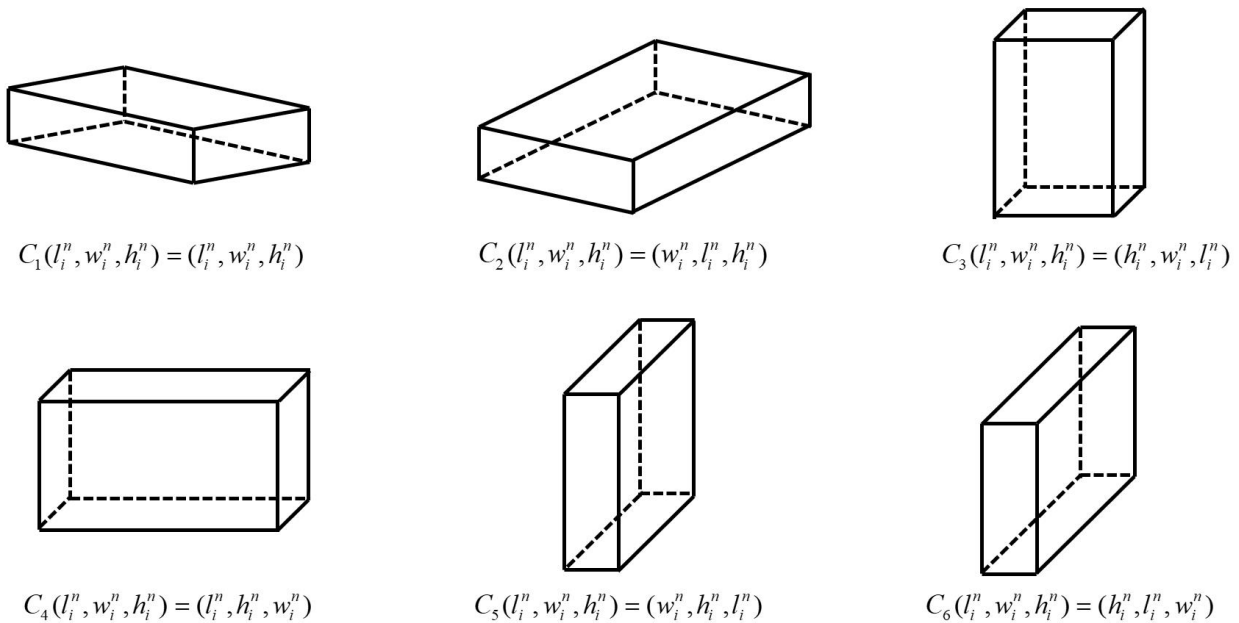


Figure 1: Packing Methods in Different Orientations.

It is known that the majority of express deliveries utilize box and bag packaging; therefore, this research establishes distinct loading mathematical models of unconstraint mixed-integer linear programming [23] for both box and bag packaging methods.

Box Loading Model

Before initiating the packaging model, several assumptions must be established:

1) All items within orders are assumed to be rectangular in shape, with the exception of irregularly shaped items.

2) Each order may consist of multiple items; however, the packaging process will not combine items from separate orders.

3) Items within the same order are assumed to be non-overlapping in spatial arrangement.

Requirements for box packaging:

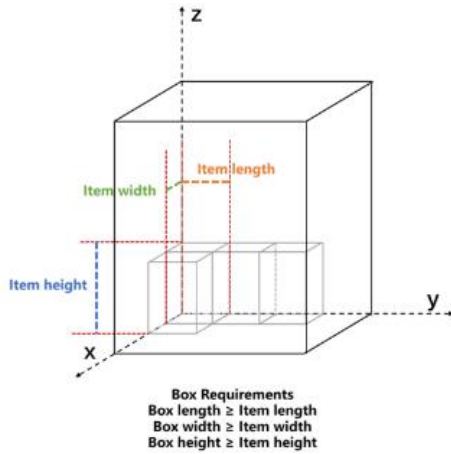
$$l_i^n \leq l_{\max}^T \quad T \in \{1\}, \forall j = 1, 2, \dots, 5, \quad (1)$$

$$w_i^n \leq w_{\max}^T \quad T \in \{1\}, \forall j = 1, 2, \dots, 5, \quad (2)$$

$$h_i^n \leq h_{\max}^T \quad T \in \{1\}, \forall j = 1, 2, \dots, 5, \quad (3)$$

where, i denote the i -th order, n represent the n -th item within the i -th order, and $T=1$ indicate packaging by means of a box, while $T=2$ corresponds to packaging via a bag. The index j specifies the j -th package of the designated packaging type.

Bag Loading Model



(a) Box Requirements

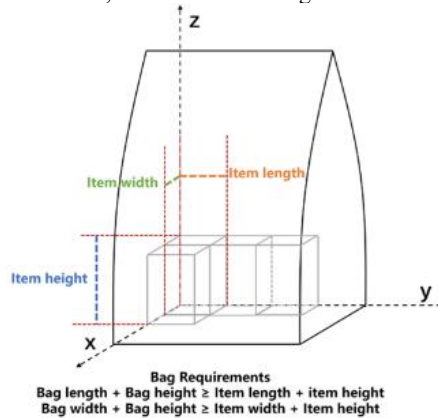
Box Requirements
 Box length \geq Item length
 Box width \geq Item width
 Box height \geq Item height

Requirements for box packaging:

$$l_i^n + h_i^n \leq l_{max}^{T_j} + h_{max}^{T_j} \quad T \in \{2\}, \forall j = 1, 2, \dots, 4, \quad (4)$$

$$w_i^n + h_i^n \leq w_{max}^{T_j} + h_{max}^{T_j} \quad T \in \{2\}, \forall j = 1, 2, \dots, 4, \quad (5)$$

The specific packaging requirements, along with a schematic representation, are illustrated in Figure 2.



(b) Bag Requirements

Bag Requirements
 Bag length + Bag height \geq Item length + item height
 Bag width + Bag height \geq Item width + Item height

Figure 2: Packaging Requirements and Schematic.

Decision Variables

d_q is a 0-1 variable, where $d_q = 1$ indicates that the current order has selected a specific packaging q , and $d_q = 0$ indicates that it has not been selected. By summing the quantity of d , the total required packaging amount for this order can be determined. Since a single order may utilize multiple types of packaging, the total quantity of packaging used, denoted as D , is the summation of the packaging quantities across all orders.

$$D = \sum_{q=1}^n d_q \quad d_q \in \{0,1\}, \forall q = 1, 2, \dots, n, \quad (6)$$

In summary, the model for the overall packaging decision is as follows:

$$D = \sum_{q=1}^n d_q$$

$$s.t. \begin{cases} d_q = \begin{cases} 1 & \text{if } Con_1 \text{ or } Con_2 \text{ or } \dots \text{ or } Con_5 \\ 0 & \text{otherwise} \end{cases} \\ Con_1 = l_i^n \leq l_{max}^{T_j} \quad T \in \{1\}, \forall j = 1, 2, \dots, 5 \\ Con_2 = w_i^n \leq w_{max}^{T_j} \quad T \in \{1\}, \forall j = 1, 2, \dots, 5 \\ Con_3 = h_i^n \leq h_{max}^{T_j} \quad T \in \{1\}, \forall j = 1, 2, \dots, 5 \\ Con_4 = l_i^n + h_i^n \leq l_{max}^{T_j} + h_{max}^{T_j} \quad T \in \{2\}, \forall j = 1, 2, \dots, 4 \\ Con_5 = w_i^n + h_i^n \leq w_{max}^{T_j} + h_{max}^{T_j} \quad T \in \{2\}, \forall j = 1, 2, \dots, 4 \end{cases} \quad (7)$$

Objective Function

To enhance the sustainability of e-commerce, minimizing the use of packaging materials in the shipping process is of paramount importance. Accordingly, the objective function of this research is:

To minimize the quantity of packaging:

$$f_1(x) = D, \quad (8)$$

To minimize the overall volume of packaging:

$$f_2(x) = \sum_{T=1, j=1}^{a,b} D^{T_j} V_{T_j}, \quad (9)$$

where, a denote the index of packaging type T , b represents the index of packaging within this type, and V_{T_j} signify the volume of the specified packaging.

To minimize the total weight of packaging:

$$f_3(x) = \sum_{T=1, j=1}^{a,b} D^{T_j} W_{T_j}, \quad (10)$$

where, W_{T_j} signify the weight of the specified packaging.

The limits of a and b are determined by the packaging type T :

$$T_j = \begin{cases} a = 2 & b = j \in \{1, 2, 3, 4\} \\ a = 1 & b = j \in \{1, 2, 3, 4, 5\} \end{cases}, \quad (11)$$

Total objective:

$$\min_x F(x) = (f_1(x), f_2(x), f_3(x)), \quad (12)$$

Through the application of the above model, material savings can be maximized, thereby protecting the environment by preventing waste of both materials and space.

Total process

The complete operational process of the parcel packaging is illustrated in Figure 3.

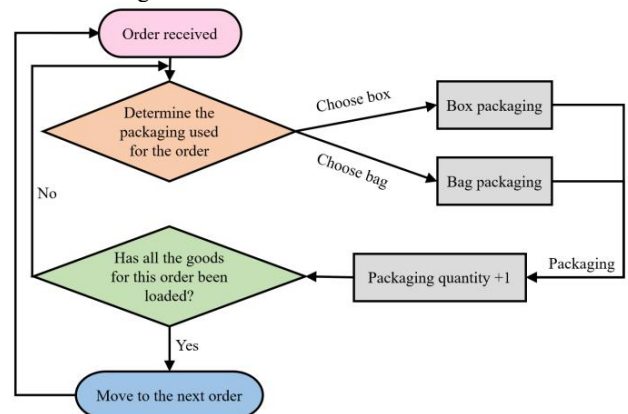


Figure 3: Item Packaging Process.

NSGA-II Optimization Algorithm

Packaging size optimization represents a continuous data optimization process. To enhance the precision of multi-objective optimization for packaging dimensions, this research utilizes the NSGA-II Optimization Algorithm, enabling efficient and effective solution identification.

Traditional Genetic Algorithms (GA) comprise three core operations: reproduction, crossover, and mutation [24]. The Non-Dominated Sorting Genetic Algorithm (NSGA) adapts these foundational principles into a sophisticated multi-objective optimization methodology [25]. In this research, apply NSGA-II [26], an advanced version of NSGA that incorporates an elitist mechanism. Through the integration of elitism and a crowding-distance comparison operator, NSGA-II addresses the limitations of arbitrarily assigned sharing parameters, enabling solutions within the approximate Pareto front to achieve an even distribution across the entire Pareto optimal set, thereby ensuring diversity within the population and an expanded search space.

Fast non-dominated sorting algorithm

In the NSGA, the computational complexity of the non-dominated sorting procedure exhibits a notable distinction. The conventional non-dominated sorting method operates with a computational complexity of mN^3 , whereas the NSGA-II employs a more efficient fast non-dominated sorting approach, reducing the complexity to mN^2 . Below, a detailed exposition of the computational steps and complexity associated with these two methodologies is presented.

Complexity of the Standard Non-dominated Sorting Algorithm

For a multi-objective optimization problem characterized by m objectives and a population size of N , the traditional non-dominated sorting method necessitates pair-wise comparisons between each individual and every other individual to ascertain dominance relationships. Consequently, the total number of comparisons scales as mN^3 . In order to identify all non-dominated solutions (those comprising the first front of non-dominated solutions), the algorithm iteratively assigns individuals to different dominance levels. This recursive procedure is applied across multiple layers until each solution is classified into a specific rank, with the maximum number of ranks capped by N . Consequently, the overall complexity of this approach escalates to mN^3 .

Complexity of the Fast Non-dominated Sorting Algorithm

The fast non-dominated sorting algorithm, as implemented in NSGA-II, optimizes computational efficiency, reducing the complexity to mN^2 . The following steps encapsulate the core operations:

1) Identification of the First Non-dominated Front: The algorithm initially segregates all solutions that are not dominated by any other solutions into a set, denoted as Z_1 .

2) Updating Dominance Relationships: For each individual within Z_1 , the algorithm identifies the subset of solutions it dominates, termed as S . Subsequently, for each solution in S , it decrements a count that reflects the number of other solutions by which it is dominated. If this count reaches zero—indicating that

the solution is no longer dominated by any other solutions—it is assigned to the subsequent non-dominated set, Z_2 .

3) Recursive Layering: This recursive sorting process continues for each newly identified non-dominated front, iterating until all solutions are assigned to a non-dominated layer. Since each layer is constructed based solely on direct dominance relationships within that layer, the complexity of the entire process remains confined to mN^2 .

The aforementioned steps effectively circumvent redundant comparisons inherent in traditional non-dominated sorting methods, thereby significantly reducing computational complexity.

Crowding Comparison Operator

Determination of Congestion

To maintain population diversity, a strategy of "crowding degree" comparison has been introduced. The crowding degree reflects the density of an individual's relative position within the population, determined by assessing the distribution of surrounding individuals. Figure 4 illustrates the calculation of crowding degree: individuals with greater distances from others are considered to have a higher crowding degree, indicating sparsity in their vicinity, whereas individuals with smaller distances are assigned a lower crowding degree, signifying a dense arrangement of nearby individuals.

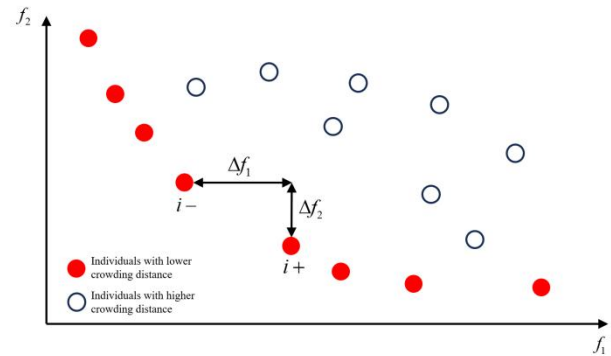


Figure 4: The Crowding Degree of i .

In the process of non-dominated sorting selection, calculating the crowding degree is a crucial step in ensuring population diversity. The calculation procedure is as follows:

1) For each non-dominated front, the crowding degree of boundary individuals is set to infinity to ensure that boundary solutions are not eliminated.

2) For each objective function, individuals within the population are sorted. For the sorted population, the crowding degree of the two boundary individuals is also set to infinity to protect the boundary solutions from elimination.

3) For each non-boundary individual, the crowding degree is computed according to the specified formula.

$$i_d = \sum_{j=1}^m \left(\left| f_j^{i+1} - f_j^{i-1} \right| \right), \quad (13)$$

Where, i_d denotes the crowding degree of individual i , f_j^{i+1} represents the value of the individual ranked one level higher than i in the j -th objective function, and f_j^{i-1} is the value of the individual ranked one level lower than i in the j -th objective function.

The magnitude of the crowding degree depends on the complexity of the ranking process. In the most extreme scenario, where all individuals belong to the same non-dominated front, the computational complexity of calculating crowding degree becomes $mN \log N$, where N is the population size and m represents the number of objective functions.

Crowding Comparison Criteria

After completing the fast non-dominated sorting and crowding degree calculation, each individual in the population is endowed with two attributes: non-domination rank r and crowding degree i_d . Based on these attributes, a crowding-comparison criterion can be defined, enabling the assessment of relative quality between two individuals during population selection.

1) If an individual belongs to a lower non-domination rank, meaning its rank r_{rank} is less than the rank j_{rank} of another individual, the individual with the lower rank is prioritized.

2) If two individuals reside in the same non-domination rank, $r_{\text{rank}} = j_{\text{rank}}$, then the individual with the greater crowding degree, $i_d > j_d$, is selected.

These criteria ensure the selection of higher-quality solutions within the population: individuals with lower non-domination ranks (indicating better solution quality) are prioritized, and if ranks are equal, those with greater crowding degrees are favored to maintain population diversity and prevent excessive solution clustering.

Elite Strategy

The NSGA-II algorithm employs an elite strategy to effectively prevent the loss of high-quality individuals. This approach involves merging all individuals from both the parent and offspring populations, followed by a non-dominated sorting process to ensure the preservation of superior individuals from the parent generation. The specific execution steps of this elite strategy are illustrated in Figure 5.

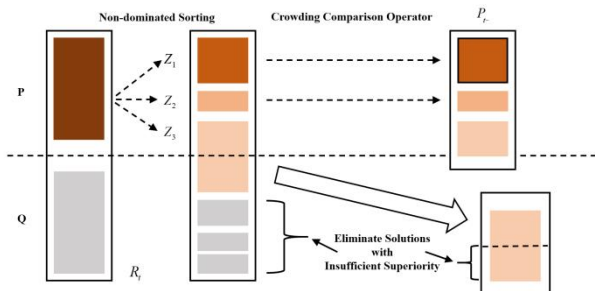


Figure 5: Elite Strategy Process.

In the NSGA-II algorithm, the newly generated population Q_t from generation t is first combined with the parent population P_t

to form a unified set R_t of size $2N$. Subsequently, R_t undergoes a non-dominated sorting process, producing multiple hierarchical non-dominated sets, and calculating the crowding distance for each individual. Since R_t includes all individuals from both the parent and offspring populations, it effectively safeguards the elite individuals from the parent generation. Starting from the highest-priority non-dominated set, the algorithm incrementally transfers all individuals in this set to the new parent population P_{t+1} for the next generation. If the number of individuals in P_{t+1} remains below N , the next non-dominated set is added sequentially until the population size approaches N .

If, after adding a certain non-dominated front, the number of individuals in P_{t+1} exceeds N , only a subset of individuals from this front is selected to ensure that the final count of individuals in P_{t+1} precisely equals N . During this selection process, the crowding distance comparison operator is employed to determine which individuals to retain, with preference given to those exhibiting larger crowding distances, thereby preserving population diversity. Specifically, the top $\{\text{num}(Z_i) - (\text{num}(P_{t+1}) - N)\}$ individuals with the highest crowding distances are chosen from this non-dominated set, so that the total number of individuals in P_{t+1} reaches N . Subsequently, the processes of selection, crossover, and mutation are applied to generate a new offspring population Q_{t+1} .

The overall computational complexity of the NSGA-II algorithm is mN^2 , with the non-dominated sorting process constituting the primary factor influencing the algorithm's efficiency. During execution, it requires only a single non-dominated sorting operation on the population of size $2N$, thereby eliminating the need for repeated sorting. Once the N individuals required for P_{t+1} are identified, the sorting process can be terminated. By employing the crowding distance comparison operator, NSGA-II effectively maintains diversity among non-dominated solutions, thereby achieving a more efficient distribution control.

NSGA-II Process

By employing the aforementioned strategy, the NSGA-II algorithm will proceed in accordance with the operations delineated in the flow presented in Figure 6, continuing iteratively until the termination criteria of the program are satisfied.

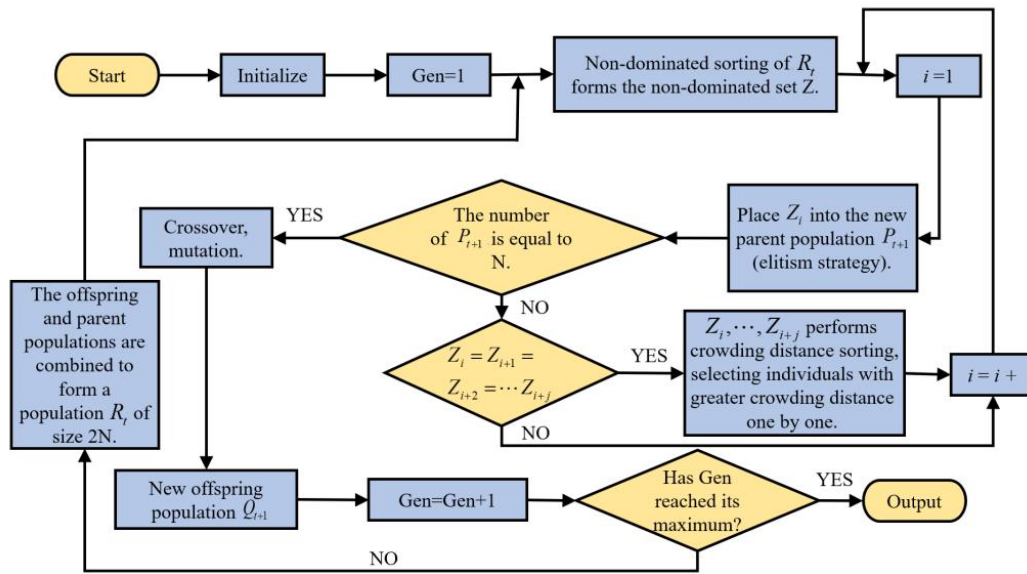


Figure 6: NSGA-II Operation Process.

Experiment and Analysis

Data Source

The dataset for this research is derived from the 2023 Third Yan gze River Delta University Mathematical Modeling Competition, Problem A—Optimization of E-commerce Parcel Packaging. These files provide essential data to support the analysis of packaging resource utilization and its environmental impact in the logistics sec-to r. (Data source: <https://www.saikr.com/c/nd/12413>)

The packaging data file details various common packaging materials, including bags and boxes, with specifications such as name, type, dimensions (length, width, height), and weight. This information reflects the actual materials employed in the e-commerce delivery process. Detailed data are presented in Table 1.

Table 1: Packaging Data.

Consumables Name	Types	Length	Width	Height	Weight
No. 1 bag	Bag	250	190	1	10
No. 2 bag	Bag	300	250	1	8
No. 3 bag	Bag	400	330	1	15
No. 4 bag	Bag	450	420	1	23
No. 1 carton	Carton	165	120	55	45
No. 2 carton	Carton	200	140	70	67
No. 3 carton	Carton	200	150	150	103
No. 4 carton	Carton	270	200	90	132
No. 5 carton	Carton	300	200	170	179

The order data file details the dimensions (length, width, and height) and quantities of items within various orders. These sample data emulate the diverse range of goods requiring delivery in e-commerce transactions, encompassing items of varying

specifications and quantities. Descriptive statistics for the order data are presented in Table 2.

Table 2: Order Data.

Total Quantity of Orders	Average Length of Items	Average Width of Items	Average Height of Items	Total Quantity of Items
10001	224.1807	154.3641	64.9015	25837

This research analyzes the aforementioned data to conduct simulation modeling of parcel packaging use and optimization within an e-commerce context. The objective is to reflect common issues and demands encountered in the practical operations of e-commerce logistics.

Environment Configuration

The hardware configuration of the simulation experiment in this research is de-tailed in Table 3.

Table 3: Computer Configuration.

Configuration	Version
CPU model	Intel i7-11800H
Operating system	Windows 10 Pro
System memory	16.0 GB
GPU model	NVIDIA RTX-3060
GPU memory	13.9GB
Code environment	Python 3.9

All simulation experiments were conducted in the Python 3.9 environment, mainly relying on the following module (See Table 4):

Table 4: Environment Configuration.

Module	Version
Pandas	2.1.1
Numpy	1.26.0

Through the above experimental environment, three-dimensional loading and packaging optimization can be simulated, simulating the optimization and decision-making in a real e-commerce environment.

Data Preprocessing

Data preprocessing is crucial prior to conducting experiments. In this research, a greedy algorithm is employed to simulate the packing process, leveraging its high efficiency to swiftly identify orders that cannot be packaged. These orders are subsequently excluded from the experiments, with their some of the order ID listed in Table 5 and total order ID in the appendix.

Table 5: The Order ID for The Part of The Items That Cannot Be Packaged.

Order Quantity
11,13,14,17,19,28,29,31,35,39, ..., 5118,5119,5125

By excluding orders that cannot be packaged, the usability of the data is significantly enhanced, thereby substantially improving the accuracy of the experiments.

Results Analysis

The optimization of packaging dimensions is inherently stochastic; thus, considering practical operations, this study implements a customized approach to dimension optimization. The dimensions are constrained within a specified range to ensure both manufacturability and ease of modification. The specific constraints are as follows:

$$0.95l^{T_j} \leq l^{T_j} \leq 1.05l^{T_j}, \quad (14)$$

$$0.95w^{T_j} \leq w^{T_j} \leq 1.05w^{T_j}, \quad (15)$$

$$0.95h^{T_j} \leq h^{T_j} \leq 1.05h^{T_j}, \quad (16)$$

These customized constraints ensure that the optimized packaging dimensions are not only feasible for production and easy to modify but also tailored to maximize material efficiency and minimize environmental impact. By applying customized dimensional limits, this approach accommodates the unique requirements of the production process, ensuring that optimized solutions are practical and sustainable, rather than generic. This tailored method is central to achieving both operational feasibility and significant material savings.

The parameter settings are critical to the performance of NSGA-II; to ensure experimental reproducibility, the parameters employed in this study are presented in Table 6.

Table 6: Algorithm Parameters.

Algorithm Parameters	
Mutation Probability	0.1
Crossover Probability	0.9
Population Size	200
Iterations	200

The following section will present a customized optimization experiment for packaging using NSGA-II.

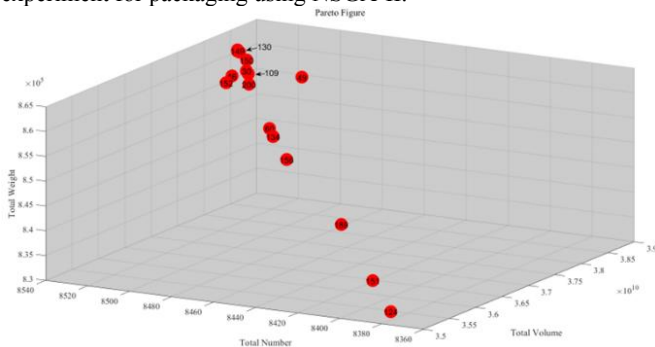


Figure 7: Pareto Chart of Solutions.

Figure 7 illustrates the distribution of various categories in terms of overall impact, with the three axes representing "Total Volume," "Total Weight," and "Total Number." The red points in the figure correspond to individual solutions, distributed in three-dimensional space according to their impact levels. Upon close observation, some solutions exhibit relatively low values across these metrics, indicating a high degree of optimization, with Solution 124

standing out as achieving the lowest values in all aspects. This study will employ Solution 124 to conduct a comparative analysis with the original solution, examining the extent of packaging material savings achieved through customized optimization of packaging dimensions.

A comparison of packaging dimensions before and after optimization is shown in Table 7.

Table 7: Comparison Before and After Optimizing Size.

Consumables Name	Original Size			Optimized Size		
	Length	Width	Height	Length	Width	Height
No. 1 bag	250	190	1	245.77	197.70	1.00
No. 2 bag	300	250	1	310.96	259.51	1.01
No. 3 bag	400	330	1	393.29	325.73	0.99
No. 4 bag	450	420	1	470.84	432.95	0.99
No. 1 carton	165	120	55	165.74	116.28	55.54
No. 2 carton	200	140	70	202.47	138.82	68.12
No. 3 carton	200	150	150	191.91	151.16	152.89
No. 4 carton	270	200	90	281.53	192.72	92.65
No. 5 carton	300	200	170	289.63	195.58	161.96

Table 7 presents a comparison of the original and optimized dimensions for various consumables of packaging. The optimized sizes show minor adjustments in length, width, and height, demonstrating the effectiveness of this research method in refining the dimensions to achieve material efficiency while retaining functional integrity. This optimization exemplifies the capability of our method to balance size reduction with precision, enhancing overall resource utilization.

The effects of packaging optimization are compared in Table 8.

Table 8: Comparison of Optimization Effects Before and After.

	Before Optimization	After Optimization	Difference ratio
Total Quantity	8537	8377.00	-1.87%
Total Volume	38514830500	3506088	-8.97%
Total Weight	860996	832356.00	-3.33%

Table 8 summarizes the overall impact of this research optimization approach, showing significant reductions in total quantity (-1.87%), total volume (-8.97%), and total weight (-3.33%) after optimization. These results highlight the strength of our method in achieving substantial savings in resource usage, reinforcing its potential in contributing to sustainable practices in e-commerce.

In summary, the findings emphasize the pivotal role of adaptive customization in advancing sustainable business practices within the e-commerce industry. By implementing the tailored packaging dimension approach proposed in this study, significant reductions were achieved in material usage, including volume, weight, and raw materials, thereby enhancing resource efficiency. This method aligns seamlessly with the sustainability goals critical to the growth of e-commerce, offering a scalable and practical solution for minimizing environmental impact. The adaptability and effectiveness demonstrated by this approach reinforce its value as a key strategy for fostering sustainable development in digital commerce.

Conclusion

This research rigorously evaluates and validates a novel method for customized packaging design optimization tailored to e-commerce applications, making significant contributions to resource efficiency in this domain. The details are as follows: (1) It introduces an innovative optimization approach that employs dimension-based customization strategies, accounting for material flexibility, compressibility, and adaptability, thereby opening new avenues for packaging optimization in e-commerce. (2) The method demonstrates a marked improvement in resource utilization efficiency, with experimental results revealing a 1.87% reduction in total packaging quantity, an 8.97% reduction in volume, and a 3.33% reduction in weight, underscoring its exceptional performance in enhancing resource efficiency. (3) This method supports sustainable development and advances the transition to a circular economy within the e-commerce sector, enabling companies to proactively address resource consumption challenges while minimizing costs and environmental impact. (4) Finally, it provides a practical demonstration of advanced optimization technologies in real-world applications, showcasing their potential to achieve precise material reductions and setting a benchmark for resource-efficient digital commerce practices.

In conclusion, the insights provided by this research demonstrate the capacity of advanced optimization techniques to achieve targeted material reductions, offering practical applications for digital commerce and representing a critical step toward more sustainable and resource-conscious e-commerce operations.

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Data Availability Statement

The original contributions presented in the research are included in the article, further inquiries can be directed to the corresponding author.

Conflict of interest

The authors declare no conflicts of interest.

Appendix

The total order ID for the items that cannot be packaged is as follows:

Order ID
11,13,14,17,19,28,29,31,35,39,44,47,48,53,55,63,66,67,70,73,81,86,90,101,102,105,118,127,133,134,141,150,155,157,163,168,169,171,174,176,177,179,182,189,190,191,193,204,208,212,216,219,222,223,231,234,235,238,258,259,263,277,278,279,281,282,284,287,290,291,292,297,305,306,312,315,316,317,320,321,329,332,334,338,340,344,345,348,350,356,357,359,363,364,365,370,371,372,38

0,381,382,389,391,392,398,399,400,401,402,403,406,410,412,413,415,416,421,422,424,429,442,444,447,449,461,466,468,473,479,485,489,493,498,504,505,509,511,514,515,522,523,526,527,529,531,536,537,538,543,544,545,549,551,553,555,563,565,573,579,580,582,583,586,588,592,596,598,600,602,606,618,622,624,625,628,630,649,654,655,656,664,665,667,668,672,674,685,687,688,693,694,695,702,706,709,711,712,713,714,724,726,728,732,739,745,746,748,753,760,761,765,766,771,782,783,787,792,796,802,803,811,820,825,828,832,833,839,843,847,848,860,861,868,874,877,878,881,883,884,885,886,887,892,899,906,909,910,911,917,929,933,937,960,964,970,972,973,975,977,978,979,986,1000,1001,1003,1007,1010,1013,1021,1022,1023,1034,1035,1054,1066,1081,1088,1090,1099,1106,1120,1123,1133,1140,1142,1143,1154,1164,1165,1166,1169,1172,1174,1183,1184,1195,1199,1205,1206,1207,1209,1210,1217,1228,1235,1237,1238,1242,1248,1249,1269,1291,1294,1300,1302,1305,1307,1309,1312,1316,1325,1328,1329,1333,1335,1337,1341,1342,1346,1355,1356,1360,1366,1391,1396,1397,1406,1410,1415,1416,1417,1422,1435,1470,1472,1474,1482,1495,1499,1506,1511,1513,1524,1534,1555,1556,1562,1564,1569,1572,1576,1579,1582,1594,1599,1613,1614,1620,1623,1642,1643,1654,1655,1656,1661,1667,1670,1677,1684,1697,1698,1702,1703,1706,1707,1710,1724,1726,1729,1736,1739,1741,1749,1754,1759,1761,1763,1772,1781,1785,1790,1793,1814,1829,1840,1842,1844,1846,1850,1852,1860,1861,1862,1863,1865,1866,1870,1872,1878,1883,1895,1897,1901,1902,1903,1904,1905,1911,1913,1914,1924,1925,1930,1931,1932,1937,1938,1939,1944,1947,1953,1959,1961,1963,1964,1968,1969,1976,1978,1981,1995,2002,2005,2014,2026,2027,2035,2046,2052,2057,2058,2060,2061,2062,2068,2073,2077,2080,2081,2082,2084,2087,2100,2111,2115,2116,2117,2119,2120,2125,2126,2134,2135,2141,2151,2156,2160,2161,2164,2165,2166,2170,2172,2173,2175,2176,2179,2180,2181,2183,2188,2193,2195,2198,2199,2202,2205,2208,2214,2219,2229,2241,2256,2257,2258,2264,2265,2271,2272,2274,2277,2282,2285,2290,2296,2300,2303,2304,2308,2311,2316,2321,2322,2326,2328,2338,2340,2342,2350,2351,2353,2361,2364,2370,2373,2380,2381,2386,2387,2404,2406,2407,2411,2414,2417,2419,2421,2424,2427,2428,2432,2433,2435,2436,2439,2442,2444,2445,2447,2451,2454,2455,2457,2458,2460,2475,2476,2477,2483,2484,2502,2507,2509,2512,2514,2519,2521,2523,2524,2530,2532,2551,2554,2556,2559,2562,2575,2577,2582,2594,2596,2613,2618,2619,2620,2624,2625,2632,2633,2637,2641,2642,2643,2653,2663,2665,2670,2672,2677,2679,2681,2682,2683,2684,2688,2693,2708,2712,2716,2719,2720,2724,2726,2727,2735,2737,2738,2739,2747,2753,2756,2763,2768,2770,2781,2783,2785,2786,2788,2790,2800,2802,2816,2821,2822,2831,2834,2835,2844,2858,2866,2867,2870,2872,2876,2882,2885,2909,2918,2919,2924,2928,2933,2945,2957,2965,2966,2967,2972,2976,2985,2992,2993,2998,3009,3012,3016,3032,3034,3036,3041,3043,3050,3053,3059,3060,3064,3067,3069,3070,3077,3080,3083,3090,3100,3108,3111,3118,3120,3121,3126,3127,3134,3137,3140,3141,3145,3147,3152,3156,3158,3161,3165,3172,3173,3174,3179,3182,3183,3203,3211,3215,3220,3223,3228,3229,3236,3237,3240,3254,3270,3275,3278,3279,3282,3289,3301,3302,3306,3313,3316,3318,3320,3323,3325,3329,3330,3336,3337,3338,3340,3346,3347,3353,3354,3355,3356,3359,3371,3378,3384,3385,3386,3387,3393,3394,3396,3400,3402,3407,3412,3417,3421,3425,3427,3428,3436,3438,3441,3444,3445,3453,3454,3455,3457,3459,3474,3475,3479,3481,3482,3484,3497,3501,3502,3514,3519,3523,3525,3526,3527,3528,3543,3546,3547,3550,3554,3556,3557,3563,3566,3571,3572,3574,3575,3578,3584,3587,3589,3606,3614,3615,3620,3623,3638,3640,3644,3646,3650,3656,3662,3673,3674,3676,3688,3692,3699,3704,3714,3718,3726,3727,3732,3751,3769,3772,3773,3776,3781,3784,3794,3802,3805,3806,3812,3813,3814,3815,3816,3817,3819,3830,3836,3850,3855,3863,3865,3868,3870,3873,3874,3876,3878,3886,3891,3892,3905,3923,3924,3925,3928,3930,3938,3956,3962,3967,3969,3970,3972,3983,3984,3985,3990,3991,3995,3996,4001,4004,4008,4010,4017,4021,4026,4033,4040,4044,4051,4056,4062,4069,4080,4093,4094,4097,4106,4108,4110,4111,4112,4113,4114,4118,4122,4139,4146,4162,4163,4165,4181,4184,4185,4188,4191,4193,4197,4200,4211,4212,4220,4234,4236,4240,4242,4250,4251,4257,4258,4269,4274,4275,4279,4
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Can Self Directed Learning Successfully Incorporated into Online Platforms?

Moira Brown¹, Ruijie Ma^{2*}

¹University of Glasgow, Glasgow, UK

²University of Glasgow, Glasgow, UK

*Corresponding author: Ma Ruijie

Abstract

With the rapid development of technology, self-directed learning (SDL) has gained significant attention in China's educational community as a flexible and adaptive learning approach. Online learning platforms are uniquely positioned to support SDL by allowing learners to engage with educational content according to their interests and needs. This article examines how to effectively integrate self-directed learning within online platforms and analyzes its influence on learners' autonomy, flexibility, and overall academic outcomes.

Through a review of multiple studies conducted in the context of Chinese education, we identify key components necessary for the success of online platforms, including personalized learning paths, real-time feedback mechanisms, and social interaction features. Personalized learning paths empower students by enabling them to select content and determine their learning pace, thereby increasing motivation and relevance in their studies. Similarly, real-time feedback enables learners to promptly assess their progress and make necessary adjustments to their learning strategies. Furthermore, social interaction features foster a sense of belonging and engagement, encouraging communication and collaboration, which are essential in the collectivist culture of China.

This article offers actionable recommendations for educators and online platform developers to enhance the implementation of self-directed learning in online education. By focusing on these strategies, we aim to improve learning outcomes, reduce disparities among learners, and advance the evolution of online educational practices in China. Ultimately, leveraging SDL within online environments can facilitate more effective learning experiences suited to the needs of diverse student populations in contemporary Chinese society.

Keywords : Self-directed learning; online platforms; e-learning

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Introduction

Theories of Learning

This study is focused on self directed learning, so an initial question must be – what is learning? According to Kolb (1984), ‘ Learning is as a dynamic and intricate process that involves the acquisition of knowledge, skills, or behaviors through various means such as study, experience, or instruction.’ However, despite this seemingly straightforward definition, learning actually encompasses a rich and diverse landscape of theories and perspectives. Educational research has identified over 50 different theories, so highlighting the complexity and multifaceted nature of how individuals learn and grow. (Jorg, Davis & Hickman, 2007, p. 147). Indeed, these theories shift and merge in many combinations as education progresses and changes in accordance with changing sci-cultural contexts- such as the transformation from a print-based world to a digital one.

Throughout the historical continuum of education and psychology, key theories of learning have evolved to shape our understanding of how individuals acquire knowledge and develop. In the 19th century, traditional education methods focused on rote memorization, teacher-centered instruction, and standardized testing (Williams, 2022) - methods that prioritized conformity and obedience over individualized learning and critical thinking skills. This ran parallel to an 18th century Enlightenment which foreground the development of the intellectual, emotional and

social aspects of the individual and the promotion of self-discovery and personal growth (Williams, 2022). The early 20th century saw the emergence of a debate between behaviorism and Dewey's social pragmatism, highlighting contrasting views on learning and instruction. According to Skinner (1953), individual behavior is learned and shaped by responding to external stimuli, so can be cultivated and changed through conditioning and motivation. From a behavioral standpoint, learning is viewed as a process of stimulus-response associations. However, Dewey's constrastive pragmatic perspective regarded learning as a means of cultivating practical abilities, active participation, and problem-solving abilities. This approach emphasized the close connection between knowledge and practical life, so as promoting comprehensive development and growth. As the 20th century progressed, more theories of learning emerged that focused on learners as individuals within a social, globalized context. Successful learning outcomes became very important to a country's economy and social progress. The mid-20th century saw an increased interest in how learning occurs- such as Piaget's cognitive development theory, Vygotsky's sociocultural theory and so on. Piaget (1950) drew attention to the processing and organization of information in the brain, and how this was governed through a chronological continuum. Essentially, a child will go through distinct developmental stages. This had a profound effect on education in that curriculum programmes were now organized and sequenced in accordance with these. How children learn became an increasing focus of social psychologists?

Bandura's Social Learning Theory (1977) emphasized that individuals can acquire new behaviors and knowledge by observing

others and the outcomes of their actions. Vygotsky's sociocultural theory focusing on social interactions and cultural context in learning. His concept of the zone of proximal development suggests that individuals can learn beyond their current level of ability through interaction with others. (Vygotsky, 1978).

However, today humanist and behaviorist learning dominates teaching and learning. This can be attributed to various factors shaping the educational landscape. In particular, the rise of neoliberalism in education has prioritized market-driven approaches and competition, emphasizing efficiency and outcomes over holistic learning experiences. Neoliberalism is an economic and political ideology that advocates for limited government intervention in markets, deregulation, privatization, and free trade policies. It emerged as a response to challenges faced by traditional Keynesian economic policies, aiming to promote free markets, individual entrepreneurship, and economic efficiency (Harvey, 2005). With the rise of globalization, it is believed that market forces are more effective in determining resource allocation than government intervention. (Mirowski & Plehwe, 2009). Additionally, an exam evaluation culture reinforces the prioritization of content mastery and test performance over critical thinking and practical application of knowledge. The reliance on high-stakes exams and standardized assessments as primary measures of student achievement incentivizes educators to focus on content coverage and exam preparation, further entrenching classical pedagogical practices.

Sociocultural factors and institutional inertia also play a role, as deeply rooted traditions within educational systems create resistance to change and hinder the adoption of new teaching paradigms. The need for connected, individualized, cognitively premised learning has been overwhelmed by a focus on examination prowess and a factory model of teaching. According to Hursh (2007), the "No Child Backwardness Act" passed by the United States in 2001 requires schools to evaluate student and school performance through standardized tests. As Freire, the Marxist philosopher and educator (1921-1997), famously asserted that Children should not be seen as passive containers filled with knowledge, they should actively engage in dialogue during the educational process. Unfortunately that is not happening in many countries – especially China.

The current Chinese situation

In recent years, China's education system has centered around the college entrance examination, which largely determines students' future development paths. Gaokao, which serves as the nation's college admission exam, evaluates pupils mostly through standardized assessments that place an emphasis on rote memorization and the capacity to recall factual knowledge rather than critical thinking or problem-solving skills. The test promotes a learning approach that is similar to antiquated teaching strategies from the late 19th and early 20th centuries, when memory recall was crucial. Large volumes of data, formulae, and texts are frequently expected of students, which might hinder their ability to be creative and acquire the critical thinking and problem-solving abilities needed in the modern, international economy (Wang & Yang, 2020). Due to the importance of the college entrance examination, many schools have adopted a test oriented education model, which puts enormous pressure on students and promotes teachers as instructors rather than facilitators of learning. A large amount of time is spent on preparing for exams which limits students' overall development and leads to insufficient cultivation of critical thinking and creativity (Zhang&Cowen, 2009). In 2020, Wang et al. performed a study which revealed that Chinese high school students commit a substantial amount of their weekly study time—50 hours on average—to test preparation. Rather than encouraging creativity or investigation, such an atmosphere fosters a culture of memorizing and obedience. According to Gao et al. (2019), students expressed feeling overburdened and incapable of pursuing extracurricular activities, which hinders their capacity for

autonomous thought and personal growth. Related 'learning' institutions have also developed as a result, and parents enroll their children in various tutoring classes to improve their college entrance examination scores. This has also led to uneven distribution of educational resources as economically disadvantaged students cannot afford the high cost of tutoring (Tsang, 2011). In addition, some families choose "college entrance examination immigration" to allow their children to participate in the college entrance examination in less competitive areas, that is, to transfer their household registration to other provinces or regions (Li & Zhang, 2010). This approach further reflects the imbalance of regional competition under the college entrance examination system.

Faced with these issues, China began reforming the college entrance examination in Beijing and Shanghai in 2014, implementing new policies for the examination. These included allowing students to independently choose exam subjects within a given range. For example, Shanghai's "trinity" enrollment model combines college entrance examination scores, academic proficiency tests, and comprehensive quality evaluations to select students based on diverse criteria (Yuan & Zhao, 2016). However, the model of prioritizing traditional teaching methods in the college entrance examination has not undergone significant changes. This exam-centric educational model often places immense pressure on students and can limit their exposure to critical thinking, creativity, and other vital skills necessary for success in a global economy (Chen, 2018).

With China asserting itself as a major player in the world economy, there is a growing demand for workers with the kind of abilities needed in a world changing quickly. Particularly when technology transforms markets and businesses, digital literacy is critical. Additionally, in order to successfully traverse the complexity of today's businesses, which demand creative problem-solving and teamwork, students must acquire critical inquiry and effective communication skills (Wang et al., 2019). To close the knowledge gap between conventional teaching techniques and the skills needed in a globalized world, educational innovations are important in this context. In addition to preparing students for success in their future academic endeavors, a focus on 21st-century skills like digital citizenship, critical thinking, and cooperative teamwork will also result in a workforce that is more effective and flexible and can handle the challenges posed by globalization (Zhang, 2020).

The future

There needs to be change. The future of education in China will face a series of challenges and opportunities. In the context of globalization and rapid technological development, Chinese education must seek balance to better adapt to future needs. Therefore, education reform needs to pay more attention to cultivating students' critical thinking, innovation ability, and cross-cultural communication ability, and keep up with the pace of globalization, simultaneously utilizing technological means such as online education and intelligent learning platforms to narrow the urban-rural education gap and promote educational equity (OECD, 2019 ; Zhao, 2009). Policy makers need to adjust the existing education evaluation system to encourage diverse learning methods and more comprehensive talent development (Li & Zhang, 2010).

The importance of Self-Directed Learning

A particular theory of learning which could help China (and other countries) deal with these changes is SDA. SDA means self-directed activity. It refers to individuals actively taking control of their learning journey during the learning process, including setting learning goals, selecting learning resources, arranging learning time, and self-evaluation of learning outcomes. This approach emphasizes learners' autonomy and initiative, which helps to improve learning motivation and effectiveness, while cultivating

lifelong learning abilities (Knowles, 1975 ; Candy, 1991). In today's digital age, where information is readily available and accessible, self-directed learning empowers students to take control of their learning journey, set goals, explore interests, and engage in lifelong learning (Boud, Cohen, & Sampson, 2014). This approach fosters critical thinking, problem-solving skills, and self-motivation, preparing students for success in an ever-changing world. In the evolving digital context of education, the abundance of information available online has transformed the learning landscape (Dabbagh & Kitsantas, 2012). Learners now have access to a wealth of resources, ranging from academic journals to multimedia content, enabling them to engage with diverse perspectives and sources of knowledge. This shift requires learners to not only consume information but to also critically evaluate, synthesize, and create meaning. Learners must develop competencies in information literacy, critically analyzing sources, and synthesizing information to form well-rounded perspectives (Anderson, 2003). The digital environment challenges learners to engage actively in higher-order thinking processes, such as critique, reflection, and the application of knowledge to real-world contexts. This necessitates a shift learners taking ownership of their learning journey, set goals, seek out relevant information, and construct knowledge independently (Siemens, 2005).

Indeed, as the educational landscape evolves in the digital age, the role of teachers is undergoing a transformation. Many educators are now moving away from traditional didactic approaches towards becoming facilitators of learning: they now play a crucial role in guiding students to navigate the vast digital information landscape, helping them develop critical thinking skills, discern credible sources, and apply knowledge effectively (Bates, 2015). Moreover, teachers are increasingly adopting a mentorship role to enhance student learning outcomes. Research indicates that mentorship in education fosters self-regulated learning by helping students set goals, monitor their progress, and reflect on their learning experience (Zimmerman, 2002). Additionally, mentorship promotes a culture of inquiry, encouraging students to ask questions and engage deeply with content, which is crucial for developing critical thinking skills (Dweck, 2006). Collaborative learning environments, supported by teachers, facilitate teamwork and communication, ultimately driving creativity and innovation among students (Johnson & Johnson, 2009).

The expansion of digital platforms education after COVID-19

The widespread acceptance and deployment of digital platforms in a variety of industries, including education, has been spurred by the COVID-19 pandemic. One significant aspect of this digital transformation is the creation and delivery of educational content tailored to the needs of students. Digital textbooks, multimedia materials, and online tutorials enable educators to offer individualized instruction that accommodates a range of student preferences and learning styles. Students may interact with the information at their own speed and in accordance with their own learning preferences thanks to systems like as Pearson's MyLab, which offer interactive textbooks that include videos, quizzes, and real-time feedback (Deng et al., 2021). In addition, educational institutions who use Google Classroom as their digital learning management system make use of the platform's capability to distribute multimedia content, such YouTube movies or interactive simulations from sites like PhET Interactive Simulations. This diversity enables educators to deliver knowledge in three different ways: viscerally, auditorily, and kinesthetically. This accommodates varied learning preferences and fosters a more comprehensive educational experience (Liu, 2018). With many sophisticated digital resources available on platforms such as XuebaJun and 17zuoye, students can now augment their classroom instruction with independent study and practice (XuebaJun, n.d.).

Online learning platforms have been increasingly popular in China thanks to appropriate regulations and their effective

application in a variety of settings. These platforms serve K–12 schools as well as higher education establishments, with a wide range of functions and target audiences. For instance, K–12 education now makes extensive use of platforms like Tencent Classroom and DingTalk, which were created by Tencent and Alibaba, respectively. These systems provide real-time online instruction, giving instructors the ability to present courses, participate in live conversations with students, and offer resources all within a single, integrated setting (Yuan et al., 2021). Moreover, platforms like Zhihuishu and Xuexitong (Study System) are well-known in the university sector. A wide range of services, like as course management, student exams, and even social networking tools for students, are provided by Xuexitong. However, Zhihuishu caters to a variety of educational requirements and interests by emphasizing interactive learning activities and high-quality video lectures (Wang et al., 2020). These systems facilitate both synchronous and asynchronous learning, allowing students to study at their own speed and go over difficult ideas again as needed. International platforms such as Coursera and edX have also gained popularity among Chinese institutions that wish to broaden their curricula and provide courses that meet international standards. These platforms provide access to education and promote a culture of lifelong learning by collaborating with top institutions to offer excellent online courses on a range of disciplines (Li, 2018). Nevertheless, despite these developments, many educators are reluctant to use digital learning environments. Some educators believe that online learning lacks face-to-face interaction, which in turn affects students' sense of participation (Garrison & Vaughan, 2008). Others believe that their acceptance of new technologies is limited, and they lack the necessary skills and training for online education platforms (Teo, 2011). Which highlights obstacles and difficulties in the digital transformation of the educational landscape. Especially in China, the pressure of the Gaokao, the national college entrance examination, significantly intensifies the stress on both teachers and students. The emphasis on rote memorization and examination results often leaves little room for innovative teaching methods. As a result, teachers frequently resort to conventional teaching techniques when integrating technology into their classrooms, primarily using it to present information rather than facilitating interactive learning experiences (Zhang et al., 2020).

Furthermore, studies show that a large number of Chinese educators lack the current pedagogical methods training necessary for successful online instruction. For example, many teachers use online platforms as digital chalkboards, prioritizing information delivery over student participation, rather than encouraging critical thinking and problem-solving abilities (Li & Ma, 2019). This dependence on conventional techniques is also a reflection of larger systemic problems in the Chinese educational system, which frequently prioritizes exam-oriented learning over comprehensive teaching methods (Chen, 2021). The problem was made worse by the COVID-19 pandemic's sudden move to online learning, which forced instructors into a digital world without enough training. This revealed a large disparity in many instructors' digital literacy and pedagogical abilities (Bai et al., 2020).

Indeed, many educators in China still find themselves drawn to traditional teaching methods, which emphasize direct instruction and face-to-face interaction. This inclination can stifle the innovative potential of online learning platforms, which are increasingly recognized as pivotal for fostering self-directed learning (SDL) and addressing the future educational needs of China. Online platforms not only facilitate flexible learning but also promote skills such as critical thinking and collaboration, which are essential to the modern workforce (Garrison, 2008). By integrating technology into their teaching practices, educators can create more dynamic and engaging learning experiences, ultimately aligning education with the demands of the 21st century, and move away from 19th and early 20th century teaching/ learning practices (Teo, 2011).

Examining Self-Directed Learning (SDL) becomes essential in light of how education is changing, especially with the growing reliance on online learning environments. SDL gives students the freedom to take charge of their education, choose how they want to study, and interact with the subject matter more fully. Its effective application in virtual spaces, however, begs significant queries. In order to comprehend the function of SDL in modern education, it is imperative that three basic questions be addressed.

Three questions:

Will SDL help learners learn?

How can SDL be successfully incorporated into online platforms?

What are the challenges and how can they be overcome? (Synocrous and asynchorous)

Methodology

The previous chapter provided the background for this dissertation. It introduced an outline of learning, self-directed learning. The researcher then outlined the expansion of digital platforms education after COVID-19 and the challenges encountered because of this, and concluded with the research objectives and research questions of this dissertation.

This chapter describes the research approach used to address the research questions. This provides the research paradigm and rationale for the approach selected, the process for gathering and analysing data, and a reflection on ethical considerations and limitations. Specifically, this dissertation attempts to answer the following three research questions:

1. Will SDL help learners learn?

2. How can SDL be successfully incorporated into online platforms?

3. What are the challenges and how can they be overcome? (Synocrous and asynchorous)

Research paradigm

Clarifying the research paradigm at the outset of a study is crucial since it informs the researcher's cognitive framework (Cohen et al., 2018). The researcher is influenced and guided by distinct paradigms. As a result, the paradigm selection should have a direct bearing on the goals of the study and how information is examined and understood (Mackenzie and Knipe, 2006). In *The Structure of Scientific Revolutions* (1964), Thomas Kuhn explained that "a paradigm is a widely accepted set of beliefs or theoretical framework within a specific field.

In this research, the interpretivist paradigm was employed in this study. According to Yanow (2006), the understanding of interpretivist paradigm lies at the philosophical level with a researcher's worldview. From an ontological perspective, choosing a paradigmatic camp involves several underlying claims about reality (Hathaway, 1995). However, the interpretivist perspective holds that reality is socially produced, subjective, and multifaceted (Guba & Lincoln, 1994; Krauss, 2005; Lincoln, Lynham, & Guba, 2011): data cannot be collected or removed from context and as such promote the 'generation', 'discovery' or 'construction' of knowledge (Denzin & Lincoln, 2011; Yanow, 2014). According to interpretivists, study outcomes are produced by the researcher's understanding and interpretation (Bryman, 2016). This suggests that the researcher infers information from the collected data inductively and bases interpretations and meanings on the opinions of the participants. If new themes or patterns emerge, researchers can adjust their research focus in a timely manner and explore these new findings in depth. This is consistent with the interpretive paradigm that emphasizes flexibility in the research process and openness in theoretical construction (Guba & Lincoln, 1994). This approach was particularly helpful in the research of whether SDL theory can be successfully incorporated into online education platforms. The reasons were multi-faceted and complex, so the

researcher had to be open to a wide range of interpretations and viewpoints.

Research method and rationale

In compliance with the objectives and research questions outlined in the previous chapter, as well as the selected paradigm, this study employed a comprehensive literature review as its research approach. A literature review is a methodical approach of gathering and analyzing prior research (Baumeister & Leary, 1997; Tranfield, Denyer, & Smart, 2003). A solid basis for knowledge advancement and the facilitation of theory creation is created by an efficient and well-conducted review as a research technique (Webster & Watson, 2002). A literature review may answer research topics with a power that no one study can match by incorporating the conclusions and points of view from several empirical results, and so provide a more comprehensive conclusions and avoid bias in individual studies (Tranfield et al., 2003). As Webster and Waston (2002) notes, a literature review can help identify shortcomings in research and guide future work. Literature reviews frequently work as the cornerstone for upcoming research and theory because they may set standards for practice and policy, serve as the foundation for knowledge generation, and offer novel concepts and directions for a particular topic (Snyder, 2019).

A literature review enhances the credibility and value of research. Each research source included in the literature review paper has undergone peer review, including published journal articles, research reports, books, government papers, etc. Therefore, by screening, classifying, and analyzing existing literature and research findings, an extensive literature review can be conducted.

Secondly, a literature review enables researchers to gather data with a wider breadth and size. Due to the large scale of China, many regional differences in income and culture may affect the application of self dominance theory in online higher education platforms. According to the self-dominance idea, successful students take charge of their education. However, students could find it challenging to use this self-directed strategy if they encounter obstacles because of their financial situation or cultural expectations. Students from richer regions may feel more empowered to take charge of their education, whereas students from more collectivist places may find it difficult to demonstrate their independence in the classroom (Deci & Ryan, 2000). This problem can be avoided by conducting an extensive literature review, as this might incorporate works from several areas or historical periods within the same region to provide a result that is more dependable and comprehensive.

Data collection and analysis

In order to gather the information needed for the literature review, the researcher conducted a search using relevant keywords. All the literature needed for this study could be found in Google Scholar, the University of Glasgow Library and z-library, and the terms searched for were either relevant to learning English using mobile devices or to mobile learning in a general sense. The researcher used the following keywords for the search: self-directed learning, online education platforms, Gaokao, Synchronous interactive teaching, asynchronous interactive teaching, COVID-19. Then the researcher filtered the search results to include only journal articles or academic texts, as well as articles published in English in China.

First, the researcher read the titles and abstracts of the articles that came up based on keyword searches. Second, the researcher framed the articles that were relevant based on the abstracts and selected the articles that were appropriate for this study to read in detail. In the detailed reading, it was necessary to establish specific criteria for the material that would be included or excluded. An Excel data extract form was created to document the article names, authors, publishing years, and primary contents. as well as to emphasize important points.

Inclusion criteria

- (1) All articles were available in full online or in the University of Glasgow Library. A complete text evaluation was necessary as reading the article in its whole or just the abstract might lead to a misunderstanding of its content.
- (2) The topic of the article or description must be related to online education in China. This is because the data provided by those directly related to the issue is more convincing.
- (3) The research content of the article should provide relevant evidence that can answer the research question. In other words, it should be related to the combination of synchronous interactive teaching and asynchronous interactive teaching in Chinese online platform education.

Exclusion criteria

- (1) Exclude all non-English articles. The researcher's Masters degree would be completed in British and therefore all the literature should be written in English in order to facilitate the assessment of the reliability of the literature.
- (2) Articles whose study background involved Taiwan, Macao, or Hong Kong should be excluded. The educational systems in these areas differ from those in mainland China as a result of Chinese policies. As a result, the investigation solely covered the situation in China's mainland.

Ethical considerations

This study did not require ethical approval from the University of Glasgow because it used secondary data that was available and had been published to address the research problems. However, this did not mean that ethical issues could be ignored in this study. Research ethics provide clear guidance for participant protection, ensuring that research is morally acceptable (Israel & Hay, 2006). Furthermore, regardless of whether one is undertaking primary or secondary research, research ethics play a crucial role because of the moral dilemmas raised by the requirement for objective and unbiased literature selection and analysis (Farrimond, 2013). Since this dissertation was built upon an extensive literature research, there were no major ethical issues with respect to privacy, secrecy, anonymity, or other issues.

The following ethical considerations were considered for this work in accordance with the Ethical Guidelines for Educational Research (British Educational Research Association, 2018) and the Code of Good Practice in Research (University of Glasgow, 2018). First of all, the goals and conclusions of the study, the methodology, standards, and procedures for gathering data, as well as the steps involved in data processing and interpretation, were all clear and transparent. Second, the entire text of all the data used in this study was accessible through Open Athens accounts on websites and online libraries. All information was safely stored on the researcher's own computer alone. Third, this study ensured that the findings of other researchers would be respected. This study included a list of all references and made an effort to avoid misquoting the original writers. Finally, as the findings of this dissertation were based on a review of the literature, the researcher's views may be subjective in many instances and in order to make the results more neutral and objective, the researcher would analyse the collected literature accurately and fairly.

Limitations

The literature used in this study has to be in English due to review criteria. However, because China was the research environment, the secondary data acquired may not be an accurate picture of the reality in China. This limitation arises because many studies conducted in English may not capture the nuances of the Chinese educational context, including regional disparities, cultural factors, and local educational practices, which might differ significantly from those discussed in available English literature. In

an attempt to address this constraint, care has been taken throughout the study process to incorporate studies from various regions of China to offer a more comprehensive understanding of the situation. In an attempt to make up as much as possible for this constraint, care has been taken throughout the study process to incorporate studies from various regions of China. Due to the impact of the epidemic, this study mainly focuses on the period of the COVID-19 outbreak and after. This focus is relevant because the pandemic drastically changed the landscape of education, forcing institutions to rapidly adopt online learning platforms. Understanding how this transition occurred during the crisis provides crucial insights into the challenges and adaptations of the educational system in China during this unprecedented time. In addition, although the epidemic has promoted the development of online platforms, the uneven level of network infrastructure and technology acceptance in China has resulted in some students being unable to fully participate in online learning due to network quality or device limitations. This limits the ability of some students to participate in online learning, thereby affecting the application effect of self-directed learning theory.

Literature review

This section introduces research related to the current study. This will firstly cover the data on self-directed learning and its conceptualization in an online environment, followed by analysis of whether self-directed learning can be effectively integrated on online platforms.

Self-Directed Learning

SDL is described as a process in which people diagnose their own learning requirements, create learning objectives, locate resources, choose and use instructional tactics, and assess the results of their efforts (Knowles, 1975). Those who participate in self-directed learning (SDL) develop into more self-reliant learners who can steer their own educational paths. In the context of China, self-directed learning (SDL) is especially crucial as the country works to develop a generation of critically motivated, self-sufficient learners who can flourish in an increasingly complicated global environment. China's economy and technology are developing at a rapid rate, which calls for a workforce that is flexible and ready to learn new skills on the job. In this setting, SDL fosters critical thinking, gives students agency over their education, and helps them acquire problem-solving techniques that are essential for creativity and competitiveness (Zhang, 2015). As China transitions from a manufacturing driven economy to an economy that prioritizes knowledge and innovation, there is an urgent need for educational reforms that support SDL. Learners will be better equipped to contribute to society and the economy if they are able to identify their own learning requirements and pursue information on their own (Wang & Zhang, 2020). Educational institutions may support the development of a culture of lifelong learning by encouraging SDL, which encourages people to keep learning new things and expanding their knowledge base in response to difficulties and demands that change over time (Li, 2018).

Indeed, the education system should cultivate students' understanding of intrinsic motivation or desire for information and skills, rather than external benefits, which is a fundamental element of self-directed learning. Deci and Ryan (1985) contend that intrinsic motivation increases the chance of perseverance in difficult activities and is essential for promoting a deeper engagement with learning. Metacognitive abilities are another component of self-directed learning that help students keep track of their comprehension and development. Effective self-directed learners demonstrate higher levels of metacognitive awareness, as stated by Zimmerman (2002), which helps them modify their techniques to achieve their objectives. This capacity for self-

reflection enables students to evaluate their performances and adjust their teaching strategies as needed.

Moreover, self-directed learners succeed far better when they are in a supportive learning environment. According to research by Candy (1991), self-direction is encouraged in environments that provide resources, flexibility, and support. This is consistent with research by Garrison (2003), who highlighted the value of social connection and presence in collaborative learning environments.

While some students may be innately good at learning on their own, others would need specific training and SDL skill development. Training on strategies and encouraging self-reflective behaviors are common components of programs aimed at improving SDL (Knowles, Holton, & Swanson, 2012). Learner happiness and academic achievement can both be enhanced by these kinds of initiatives.

Self-Directed Learning on Online Platforms

Online learning, often referred to as e-learning, encompasses a wide range of educational experiences that are delivered through the internet. This mode of learning allows students to access course materials and resources at their convenience, facilitating individualized learning experiences (Zhou et al., 2020). In China, online learning has gained immense popularity and continues to evolve rapidly, promoting self-directed learning (SDL) that empowers learners to take control of their educational journeys. The manifestation of online learning in China can be seen through various platforms, including MOOCs (Massive Open Online Courses), mobile applications, and social media (Li & Wong, 2021).

An important aspect of online education in China is the growth of MOOC platforms (Yuan & Powell, 2013). XuetangX and Coursera are two examples of the platforms that provide a vast array of courses from prestigious colleges and institutes worldwide. They let students pick classes that fit with their interests and goals for their careers and learn at their own speed. For instance, XuetangX, which offers academic courses in everything from computer science to the arts and humanities, has grown rapidly to become a significant player in China's education market. With the help of this platform, students may investigate many subjects and develop abilities that are becoming more and more crucial in the contemporary labor market (Li, 2019). Because MOOC platforms are accessible and flexible, they facilitate self-directed learning (SDL) by enabling students to tailor their education to their own needs. Moreover, applications for mobile learning greatly improve China's online learning environment. Programs like EasyChinese and Duolingo are made expressly to make language learning more fun and interactive through engaging techniques. For instance, Duolingo uses gamification features to make learning engaging and less intimidating, which motivates users to engage regularly. Individuals can establish goals and monitor their advancement, promoting a feeling of control over their educational journey (Fang, 2021). Mobile applications are essential tools for self-directed learners in China's distant and rural locations, where access to traditional educational resources may be limited. In addition to giving students the chance to learn new skills, these applications allow them the autonomy to choose their own educational paths (Chen, 2020).

Choosing the desired educational path independently also highlights another important aspect of promoting SDL in online learning: personalized learning. Numerous online platforms employ algorithms to suggest resources and courses to users based on their learning progress and areas of interest. With the use of platforms like Coursera, users may proceed through information that is most relevant to their requirements by being given a personalized learning route (Chao, 2022). This degree of customization fosters motivation and autonomy, enabling students to assume greater accountability for their education. While conducting personalized learning, the platform's online assessment tool provides learners with the opportunity to independently evaluate their understanding of the material (Lu & Law, 2012). Through quizzes, peer

evaluations, and forums, students can receive real-time feedback on their performance, allowing them to immediately adjust their learning strategies. This feedback loop is crucial for self-directed learners as it allows them to reflect on their progress and modify their methods when necessary.

Review about Prior Research

Self Directed Learning (SDL) has gradually become a hot topic in educational research in recent years, especially in the rapidly developing field of online education (Lee, 2017). In China, with the advancement of Internet technology, the rise of online learning platforms provides unprecedented opportunities for learners to adopt more independent learning methods (Li & Wong, 2021). In this chapter, we will review five key studies, analyze how self-directed learning has successfully integrated into China's online platforms, and explore the impact of this phenomenon on the current education environment and examination system.

First, studies conducted on MOOC (Massive Open Online Course) platforms demonstrate the viability of implementing self-directed learning in this setting. Li Zhiqiang (2020) investigates how MOOC platforms provide students the freedom to choose for themselves, allowing them to create learning pathways centered around their hobbies and professional objectives. According to his research, self-directed learning greatly raises learners' motivation and learning results on MOOC platforms, suggesting that online learning not only makes education more accessible but also encourages students to actively engage (Li, 2020). This has paved the way for the educational landscape to change from one that relies mostly on "indoctrination based" instruction to one that emphasizes students' active learning and challenges the grade-based test evaluation system. On the other hand, Wang Jun's (2019) study on rural students revealed that while online learning environments increase the accessibility of resources, these students' skills to learn independently differ. [2] In order to successfully integrate SDL in rural educational contexts, Wang's research highlights the significance of students' self-regulation skills, the reliability of network connections, and the availability of technical equipment. Rural students may still study using online platforms, but if they don't develop strong self-management skills or don't have the required technological support, SDL implementation won't be as successful. This shows how different areas' resource distribution and educational contexts affect self-directed learning, which is in contradiction to Li Zhiqiang's point of view.

Zhang Wei (2021) further examined the function of social media in online education and noted that social media platforms give students a valuable interactive environment in which they may exchange knowledge and experiences, encouraging the use of self-directed learning. According to this study, social media not only fosters collaboration among students but also strengthens their feeling of community, which raises students' drive to learn. This is in contrast to the findings of Wang Jun's research, which indicates that social connection still helps to make up for the physical and technical constraints that rural students encounter by giving them emotional support and drive to learn. Consequently, it may be said that social media plays a particularly significant role in self-directed learning, particularly in settings where information and resources are relatively scarce. Nonetheless, Chen Li's (2020) research highlights that depending exclusively on social media is insufficient to support the successful application of self-directed learning (SDL). The study examines the association between technology literacy and SDL competence. According to research, a student's technical and self-management skills play a major role in determining how well they learn online. Insufficient technical skills provided by the educational system may provide a challenge for students in terms of effectively utilizing online platforms for self-directed learning. This suggests that while social media platforms have positive interaction effects, successful self-directed learning still requires technological help.

Finally, in Zhao Min's (2022) exploration of the application of self-directed learning in vocational education, it is clearly pointed out that online learning platforms provide excellent opportunities for adult learners to learn independently, especially in improving vocational skills. Her research shows that with the intensification of workplace competition, adult learners who engage in self-directed learning through online platforms can better adapt to market demand. This change has promoted the importance of lifelong learning in education policies. This is in sharp contrast to the traditional education model of the past, which is usually guided by a single examination evaluation system. Therefore, the introduction of SDL not only changes the way learners learn, but also puts forward new requirements for the educational evaluation system, emphasizing the necessity of continuous learning and ability improvement.

In conclusion, prior research has demonstrated that although self-directed learning presents several obstacles, it also has a significant deal of promise for successful adoption on Chinese internet platforms. The way SDL is implemented is greatly influenced by the technical capacities of learners and the educational environment in which they are located. While social media facilitates communication among students, technology assistance is essential. Furthermore, the advancement of SDL is upending established testing and evaluation methods by directing educational policy to place more emphasis on competency building and lifelong learning.

Limitation of Prior Research

Although previous studies have shown that self-directed learning (SDL) has great potential for application on Chinese online education platforms, these studies have certain shortcomings and limitations, which affect the comprehensive understanding and recognition of the effectiveness of SDL implementation.

Li Zhiqiang (2020) highlighted that online learning can enhance students' motivation and learning results in relation to studies on MOOC platforms. The influence of learner background and individual variations on self-directed learning, however, was not adequately taken into account in this study. Students' self-regulation skills, learning preferences, and levels of motivation differ in real learning contexts, and these aspects will have a direct impact on their learning results on MOOC platforms (Dabbagh & Kitsantas, 2012). Similarly, despite the fact that Wang Jun's (2019) study on rural students demonstrated the significance of technology tools and network connectivity in executing self-directed learning, this study did not explore the function of psychological elements associated with SDL, like learning motivation and self-confidence, in the rural educational setting. Indeed, psychological factors have a significant impact on students from different educational backgrounds. Zimmerman's research suggests that students with low self-efficacy may face greater challenges when adopting self-directed learning strategies (2008). It may thus not be feasible to fully assess the success of self-directed learning based only on the autonomous choice options offered by the platform, and this constraint may result in a biased assessment of its true effects.

In addition to online platforms such as MOOCs, the problems of social media are also worth exploring, as it plays a key role in enhancing interaction between learners. In Zhangwei's (2021) research, although emphasizing the promoting effect of social interaction on learning motivation, the main limitation is the lack of in-depth analysis of the specific usage of social media platforms and the quality of interaction between learners. Existing research often regards social media as a unified tool, but different platform characteristics and user usage habits may significantly affect learning outcomes. Research has shown that the quality of interaction, rather than just the frequency of interaction, is more critical to learning outcomes (Valenzuela, Park, & Kee, 2009). Chen Li (2020) also emphasizing that relying solely on social media is not sufficient to support the successful application of self-directed learning (SDL). It is worth noting that although Chen Li

expressed the view that relying solely on social media is not enough to support the successful application of SDL, it indicates that technical support is a condition for the successful implementation of SDL. However, due to the insufficient consideration of the dynamic and complex nature of self-directed learning needs in the rapidly changing technological environment, this has also become a limitation of its research. As online learning technologies continue to advance, so too should the notion of technical literacy for learners. Even with technology assistance in place, self-directed learning may encounter challenges if the educational system does not promptly update the associated training materials and support systems. Future study should thus focus on a more dynamic viewpoint when examining the development of technical literacy, particularly in online contexts that are changing quickly.

Finally, according to Zhao Min's (2022) research, although self-directed learning by adult learners through online platforms can meet market demand, the limitation of this research lies in the lack of analysis of the actual course content and quality in vocational education. The success of online learning not only depends on the self-management ability and motivation of learners, but also closely related to the design of courses, the relevance of content, and the quality of teaching. Research has shown that the practicality and effectiveness of educational content have a significant impact on learners' learning attitudes and outcomes (Van der Kleij, Feskens, & Eggen, 2015). Future research should focus more on balancing the relationship between self-directed learning and curriculum quality to ensure the effectiveness of adult learners in practice.

In summary, although self-directed learning has shown significant potential in online education research in China, the shortcomings and limitations of existing research are equally evident. Various studies have failed to fully consider key factors such as individual learner differences, psychological factors, social interaction quality, dynamic changes in technical literacy, and course quality. Future research should explore these influencing factors in a more comprehensive and multidimensional manner, in order to provide a more solid theoretical foundation and empirical support for the implementation of self-directed learning.

The current research

This study aims to fill this research gap by exploring effective integration methods for self-directed learning in different types of online learning platforms. Specifically, we will focus on learners' initiative, participation, and their impact on learning outcomes, addressing educators' fear of online education platform technology issues and lack of prior experience. We hope to solve the problems of lack of feedback and inability to communicate face-to-face through a combination of synchronous and asynchronous teaching methods. We hope to provide practical and feasible suggestions for online education practices, helping educators better design courses to effectively enhance students' self-learning abilities.

One of the main reasons for the poor performance of many online education platforms is due to the educators themselves. Many online education systems in China are not performing up to pace, in part because of issues with the teachers themselves. Due to their inexperience with technology and ignorance of online teaching techniques, many instructors have a poor acceptance rate for online education platforms. This has resulted in some opposition to new technologies. Studies have indicated that instructors' adoption of online learning may be successfully increased with systematic training and ongoing technical assistance (Yuan Guobao, 2019). In China's educational landscape, a growing number of institutions are realizing the value of ongoing professional development for instructors, which aims to increase their acceptance of online learning environments and help them get over their initial reluctance. While conducting training, it is also necessary to provide teachers with correct and positive support. In the context of Chinese education, instructors' attitudes may be

greatly improved by presenting the benefits and successful examples of online learning. For instance, Zhang Wei (2020) noted that instructors' attitudes toward embracing new technologies would improve when they witness instances of online education platforms being successfully implemented in real-world settings and having a favorable influence on students' learning results. This tactic encourages instructors to use online learning materials more effectively and helps them become more self-assured. Meanwhile, the implementation of a reward system has the potential to significantly alter the attitudes and behaviors of educators while also boosting their adoption of online learning environments. According to Li (2018), teachers' attitudes and actions may be successfully changed by using the right incentive programs. When instructors utilize online learning platforms, for instance, some colleges provide material benefits or raise their performance assessment ratings, which in turn increases the instructors' excitement for utilizing online learning.

In order to promote the common progress of education, online education platforms can establish a dedicated teacher community, where teachers who receive material rewards can exchange teaching experience and resources with other teachers and learn from each other. According to Wang Gang's (2021) research, establishing a peer learning and collaboration network among teachers can provide a platform for mutual support and sharing, helping them better adapt to and accept online education platforms. Such communities can promote the sharing of teaching resources and the exchange of innovative thinking, providing support for teachers. In the process of promoting online education platforms, teachers' opinions and suggestions are crucial for the design and implementation of online education platforms. Respecting and adopting teachers' opinions can enhance their sense of identification and participation in online education platforms (Lin Jianhua, 2020). For example, many educational institutions improve the design and functionality of online learning tools by soliciting teacher feedback, making these resources more in line with user needs, thereby increasing teacher usage frequency and satisfaction.

Compared to solving the problem of teacher groups, it is also important to address the issues that learners face when using online education platforms. In particular, learners who use online education platforms often struggle with low intrinsic motivation. To solve these issues, it is critical to actively investigate effective learning strategies. Educators in China are becoming more and more concerned with implementing "gamification" to increase pupils' interest in studying. Gamification has been used extensively in education throughout this phase to pique students' interest in the material they are studying (Fang Fang & Li Hua, 2020). According to Deterding et al. (2011), the term "gamification" in this context refers to the application of game theory, mechanisms, and processes to education, rather than just the conventional gaming sector. Studies have indicated that the use of technology into educational endeavors frequently results in a notable boost in students' sense of involvement (Li Ming, 2018). For instance, gamification components are progressively being added to several online learning systems in China in order to increase student motivation and engagement. Certain platforms, including "Homework Help," use gaming aspects to boost pupils' incentive to study. They use point and reward systems in addition to conventional teaching techniques when students complete assignments, assessments, or learning activities. Students can earn badges, diplomas, or virtual cash by completing learning assignments (Zhang Li, 2019). When using the Homework Help platform, students can view their ranking in class or across the platform based on the provided competition and ranking functions. This ranking mechanism stimulates students' competitive awareness and learning motivation, prompting them to work harder to improve their academic performance (Chen Wei, 2020). This competitiveness not only enhances students' sense of participation, but also helps to create a healthy learning atmosphere, allowing

students to progress together through mutual encouragement. In addition to homework help, there are a plethora of additional educational apps available that use gamification techniques to improve learning results. Researchers noted that gamified teaching may successfully increase students' learning effectiveness and enjoyment, which would support the general improvement of learning capacity, in an analysis study on the education sector (Wang Gang, 2021). By putting up interactions to fully immerse learners in the learning information, several online platforms have effectively included gamification into their educational process.

When facing the problem of learners lacking timely feedback and unable to communicate face-to-face, educators can use two common online education methods: synchronous interactive teaching and asynchronous interactive teaching. Synchronous interactive teaching involves real-time communication between teachers and students, typically through video conferencing or live chat platforms (Wang et al., 2018). This approach allows for immediate feedback, active engagement, and dynamic interactions, resembling traditional classroom interactions. Synchronous teaching fosters a sense of community and facilitates collaborative learning experiences (Liu, 2008). Asynchronous interactive teaching, on the other hand, allows for flexible learning schedules, where students engage with course materials and interact with peers and instructors at their own pace (Wang et al., 2018). This approach often utilizes discussion forums, email, and multimedia resources to facilitate interaction and collaboration. Asynchronous teaching accommodates diverse learning styles and time zones, promoting accessibility and inclusivity in online learning environments (Wang et al., 2018). In China, the commonly used online education platforms in daily life have adopted these two teaching methods. With the ability to conduct live-streamed courses, engage students through interactive activities, and remotely monitor learning progress, platforms like Tencent Classroom and DingTalk have become vital tools for instructors. These platforms have been essential in allowing education to continue even in the face of lockdowns and other social distancing tactics. Additionally, since it is an online education platform, artificial intelligence technology is widely used in various functions launched by these platforms. The efficiency of digital platforms in Chinese schools has also been significantly increased by the integration of artificial intelligence (AI) and adaptive learning technologies. Companies like Squirrel AI and Yuanfudao have created artificial intelligence-driven tutoring systems that can evaluate student performance data, offer tailored recommendations and feedback, and maximize learning outcomes. These AI-driven platforms can adjust to each student's unique learning demands and give tailored help, implemented hybrid learning strategies that combine synchronous online courses with asynchronous self-paced activities and in-person classes. This approach allows students to benefit from the flexibility and accessibility of digital platforms while still maintaining valuable face-to-face interactions with teachers and peers. By combining synchronous and asynchronous interactive teaching, teachers can design more effective teaching activities based on student needs and course objectives, promoting deeper and more comprehensive learning (Taylor et al., 2021). Ensure that different learning styles and rhythms are taken into consideration when designing courses to provide a personalized learning experience (Johnson, 2017). It has also accelerated the adoption of hybrid learning models in Chinese schools, combining online and offline teaching. (Xiong, 2020). In the education of the 21st century, both students and teachers face diverse learning needs and the widespread application of technological tools. Therefore, both synchronous interactive teaching and asynchronous interactive teaching provide different learning opportunities and methods, which can be flexibly applied according to the characteristics of teaching objectives, student groups, and course content to promote the comprehensive development and learning effectiveness of students.

Additionally, online education platforms should also optimize and improve their teaching design and content quality. To establish clear teaching objectives, design course structures and content that can effectively achieve these objectives. Teaching design should take into account students' backgrounds and learning needs, ensuring the coherence and logic of the content (Wiggins&McTighe, 2005).

In summary, self-directed learning (SDL) has significant potential in promoting the learning process of learners. Research shows that SDL helps enhance learners' autonomy, self-management abilities, and learning motivation, thereby improving their learning outcomes and long-term learning motivation. The key to successfully integrating SDL into online learning platforms lies in balancing the autonomous learning needs of learners with the guiding role of teachers. Online platforms need to provide personalized learning paths, abundant learning resources, and effective learning progress tracking and feedback mechanisms to support learners in effective learning under different time and space conditions. However, the challenges faced in implementing SDL cannot be ignored, especially in synchronous and asynchronous learning environments. In a synchronous environment, time constraints and collective learning dynamics may limit learners' autonomous learning space, which needs to be addressed by optimizing classroom time utilization and enhancing student participation. In asynchronous environments, learners require more self-management and time planning abilities, and educators can support them by providing clear learning goals and structured learning resources.

Conclusion

Overall, the goal of this research is to investigate how self-directed learning (SDL) may be applied successfully in online learning environments. Based on an analysis of the possibilities and obstacles that educators and students confront during this process, we have developed a set of particular implementation tactics, teacher role modifications, and assessment criteria. Studies have indicated that a well-designed curriculum and the assistance of teachers may significantly improve students' capacity for self-direction. Furthermore, enhancing the assessment criteria can support students' active engagement and self-management while also assisting educators and learners in comprehending the learning process. By combining theory and experience, this study fills a vacuum in the literature by focusing on the particular application of SDL in online learning settings and offering workable and realistic solutions. Simultaneously, these results offer direction to teachers in the creation of curricula for online learning, fostering an environment that allows students to improve their capacity for self-direction.

Future studies have to concentrate on the effects of various online learning platform kinds and how to best apply SDL implementation tactics in diverse technical and cultural situations. In the 21st-century learning environment, we can only expect to assist students in more effectively adjusting to the ever evolving digital world by ongoing exploration.

Findings

In the first two chapters, the research background, research objectives, research questions and the considerations and design of the research process for this study have been clearly elaborated. The next three literature review chapters will be the key chapters for this dissertation. The purpose of this research is to explore whether the theory of self-directed learning can be successfully incorporated into online education platforms. The chapter is divided into three parts. The first part provides some findings about will SDL help learners learn. The second part describes the result about how can SDL be successfully incorporated into online platforms. The third part explain the difficulties that online education platforms may encounter and the methods to overcome

them. By analyzing relevant research data and conducting extensive literature review, this chapter will presents the findings generated from the related data under each research question.

Will SDL help learners learn?

When it comes to the theory of self-directed learning, people often consider whether the theory is truly effective in learning. Therefore, before answering the title question, I will first analyze effective learning from various aspects, including motivation and engagement, prior knowledge and experience, learning environment, teaching methods and strategies, cognitive abilities, emotional and mental health, socioeconomic background and so on.

According to Schunk, Pintrich, and Meece (2008), intrinsic motivation leads to deeper engagement and better retention of information. This is because intrinsically motivated learners are more likely to employ self-regulation strategies, such as goal setting and self-monitoring, which enhance learning outcomes. In contrast, extrinsic motivation, driven by external rewards or pressures, may lead to superficial engagement and short-term learning gains. Since effective learning is based on what students already know, linking new information with existing knowledge helps learners establish meaningful associations, making it easier for them to retrieve and apply information in different environments (Bransford et al., 2000). In addition, for more effective teaching, educators should adopt diverse teaching methods and strategies. Prince (2004) notes, active learning strategies, such as discussions, group work, and hands-on activities, encourage learners to engage with the material more deeply, think critically, and apply knowledge in real-world contexts. Meanwhile, educators should cultivate students' cognitive abilities, including critical thinking, problem-solving, and metacognition. Sweller, Ayres, and Kalyuga (2011) explain that teaching strategies that promote cognitive load management, such as scaffolding and chunking information, can enhance learners' cognitive abilities.

While conducting diversified teaching, attention should also be paid to students' mental health issues. In Pekrun et al.'s research, they extensively discussed how positive emotions such as enjoyment, hope, and pride positively affect motivation and learning, while negative emotions such as anxiety and boredom hinder cognitive function and academic achievement (2002). For learners, a supportive, resource-rich environment encourages exploration and risk-taking, which are essential for deep learning (Ambrose et al., 2010). They suggests that cultivating a sense of community and belonging, providing an environment for resource acquisition and supporting autonomy, can significantly enhance learners' motivation and engagement. Krogsrud and Campbell (2013) also notes, reducing distractions and creating a comfortable physical space can help learners focus better and process information more effectively. In Sirin's research, it was pointed out that socioeconomic background has an impact on academic performance, and higher socioeconomic status is often associated with better educational outcomes (2005). With these key features of effective learning in mind, we can explore how self-directed learning (SDL) aligns with and enhances these aspects, thereby promoting better learning outcomes.

Self directed learning emphasizes learners' autonomy and initiative, allowing individuals to tailor their learning experiences according to their interests and goals (Knowles, 1975 ; Candy, 1991). Using the SDL approach requires educators to make a fundamental shift from being information providers to facilitators of learning, motivators, situation designers, and frequently, full-time co-learners who accompany students as they acquire new instructional skills (like facilitation) and knowledge (like context outside of their area of expertise) (Abraham et al., 2005). As a result, SDL not only gives students a sense of mastery and autonomy, but also provides a purpose for the educational process; Educators can therefore provide differentiated teaching based on learners' learning styles and interests, making teaching more personalized and targeted (Tough, 1971 ; Robinson et al., 2020).

According to Knowles (1975), self-directed learning can greatly enhance learners' motivation, as they have more control over their learning process. Due to the ability to independently choose learning strategies and resources during learning, this also enables learners to more effectively utilize and plan their time and resources (Merriam & Caffarella, 1991). This has also alleviated the education gap to a certain extent, making education more democratic and helping to bridge the gap between students caused by differences in socioeconomic status (Knowles, 1975). As Garrison (1997) notes, self-directed learning can significantly improve learners' self-management abilities, helping them better plan and execute learning tasks. Moreover, due to the tendency of self-directed learners to engage in deeper thinking and reflection, as they continuously evaluate their learning outcomes and adjust their learning strategies based on the evaluation results, they gain a deeper understanding and application of knowledge. This process ensures that learners integrate new information meaningfully with existing knowledge (Knowles, 1975). Brookfield pointed out that self-directed learning promotes deep learning through reflection and self-evaluation (Brookfield, 1986). In reflection and self-evaluation, learners can cultivate critical thinking and metacognitive abilities (Zimmerman, 2002). In a well-designed SDL environment, students become more motivated and feel more in charge of their lives, confident, and self-believing (Boyer et al., 2014). Through self-directed learning, learners can continuously experience a sense of success, and most importantly, it supports our students' unlimited learning potential and creativity (Robinson et al., 2020).

Another noteworthy aspect is that learners who adopt the theory of self-directed learning perform better than traditional learners in academic tests (Song & Hill, 2007). In the research experiment conducted by Song and Hill, the subjects were two statistics course classes at a certain university. One class adopted a self-directed online learning mode, while the other class used a traditional classroom teaching mode. Students who adopt a self-directed learning mode can choose their own learning time and pace, and use online resources for learning, including video lectures, online exercises, and discussion forums. They need to independently set learning goals, manage learning time, and adjust learning strategies based on their own understanding and needs. Students who adopt traditional teaching methods attend classes according to a fixed schedule, taught by teachers, complete assignments and exams regularly, and have their learning progress arranged uniformly by teachers.

The final exam results showed that the average grades of students in online learning classes were significantly higher than those in traditional classroom classes. Specifically manifested as:

- (1) The average score for students in online learning classes is 85 points, while the average score for traditional classroom classes is 78 points.
- (2) 70% of students in online learning classes score above 80 points, while only 50% of students in traditional classroom classes score above 80 points.
- (3) Student feedback indicates that students in online learning classes generally feel an increase in learning autonomy, are better able to learn according to personal needs, and have a deeper understanding of learning content.

The above viewpoint can effectively prove the help of the theory of self dominance for learners in learning, but there are also some controversies. Some learners may require more guidance and support, especially in the early stages, and relying solely on self guidance may lead to losing direction (Brockett&Hiemstra, 2013). Due to differences in self-management abilities among learners, this may result in some learners being unable to learn effectively due to a lack of organizational and planning skills (Schunk, 2003). At the same time, the reduction of external incentives can also lead to a decrease in students' learning motivation and effectiveness (Ryan & Deci, 2000). In addition, self-directed learning may reduce opportunities for interaction and collaboration among

learners, and these social factors also have a positive impact on learning (Vygotsky, 1978).

The theory of self-directed learning provides learners with great freedom and flexibility, but at the same time, it requires corresponding support and guidance for different learners' needs to ensure the maximization of learning outcomes. Effective self-directed learning should find a balance between autonomy and guidance.

How can SDL be successfully incorporated into online platforms?

Online learning platforms, also known as e-learning platforms, are web-based platforms that provide educational courses, resources, and tools to facilitate learning outside of traditional classroom settings (Clark & Mayer, 2016). They utilize technology to deliver educational content in various formats, such as video lectures, interactive quizzes, discussion forums, and downloadable materials (Anderson, 2008). These diverse forms of resources provide students with a multi-dimensional learning experience (Huang&Liaw, 2018). In addition, many online platforms provide discussion forums and real-time chat rooms to promote interaction between teachers and students, as well as among classmates. This interaction not only enhances the socialization of learning, but also provides students with immediate feedback (González&García, 2018). Students can not only analyze their learning progress from feedback, but also stay informed about their learning progress through the platform's automated grading and assessment tools. This feedback mechanism helps students identify their strengths and weaknesses in order to make corresponding learning adjustments (Anderson, 2008). Due to the fact that most online education platforms are designed to support multiple devices, including computers, tablets, and smartphones. This cross device accessibility enhances the flexibility of learning, greatly reducing the possibility of learning being limited by space and time (Siemens, 2013).

Following the COVID-19 pandemic, it has been discovered that widespread school suspensions have an impact on student learning (Xinhua Net., 2020). Online instruction has become an essential tactic to reestablish the regular educational order at this unique time, as it helps to reduce the pandemic's negative effects on education and contain its spread. Schools and institutions worldwide were forced to adapt rapidly, utilizing various platforms to continue education. Platforms such as Google Classroom, Microsoft Teams, and Zoom became essential. The two teaching methods of online education platforms, synchronous interaction and asynchronous interaction, are gradually becoming well-known to people. In synchronous interactive teaching. Synchronous interaction can promote interaction between students and between teachers and students through real-time online discussions or video conferences, providing direct feedback mechanisms (Jones, 2020). On the other hand, asynchronous interaction can provide students with opportunities for self-directed learning through online learning resources, online video conferences, and discussion boards, allowing them to delve deeper into their personal time (Brown, 2018). In synchronous interactive teaching, teachers act as facilitators and guides, encouraging discussions, providing immediate feedback, and clarifying questions in real time; Students are active participants and interact directly with peers and teachers. In asynchronous learning, teachers transform into resource managers, providing students with materials, assessments, and guidance. They must respond to students' learning needs through feedback on assignments and forums; At this point, students take on a more autonomous role and are responsible for their learning path. Both of these modes adhere to the principles of SDL, where learners determine their learning speed and methods.

Indeed, the main design innovation of online platforms is to support users in managing their learning if they wish to set and pursue their own study goals (Onah & Pang, 2021). Based on the

theory of self-directed learning, learners can set their own goals and choose courses that meet their interests and needs; Being able to control one's own educational resources (Garrison, 2011). However, learners can still choose to follow the learning path provided by the course instructor, allowing for guided and structured navigation throughout the course to achieve its objectives (Onah et al., 2022). This support helps learners stay on track and ensures they have access to expert advice when needed (Salmon, 2011). In Onah et al.'s (2022) study, taking online education platform MOOCs as an example, the platform should support two learning modes: self-directed learning mode and teacher led mode, where the recommended topic sequence covers the entire course curriculum. In order to support users' self-directed learning through informed choices, the system should provide suggestions (but not mandatory) for each topic's suggested prerequisites and provide learners with a map to visualize the elements they have studied so far. According to Shao et al. (2022), self-directed learning can give more insight into how a person can employ learning strategies in an online setting and can also assist to understand how a person feels about online learning.

Moreover, online education platforms provide a wealth of resources, including video lectures, readings, interactive simulations, and discussion forums, which are accessible anytime and anywhere. This also provides a learning platform for many non professional learners. Learners can study the course according to their own schedule (Anderson, 2008). In the study by Jutasompakorn et al. (2021), the development and practice of an online self-learning platform based on finance were mainly analyzed, targeting non business learners. The results of the experimental data indicate that the implemented online self-learning platform is effective in enhancing the application of financial concepts among non business undergraduate students. Ryan and Deci's (2019) research found that, in online learning environments, there is a positive correlation between learners' autonomous selection and sense of control over resources and their learning motivation and outcomes, which is also in line with the importance of individual behavior and intrinsic motivation emphasized by the theory of self-directed learning. In addition, Wang et al.(2020) also explored the relationship between learners' perception of course resources and their learning motivation in online courses. The results showed a significant positive correlation between resource availability and learners' intrinsic motivation and learning satisfaction. In order to maintain learner engagement, the online platform incorporates interactive elements such as quizzes, gamified learning experiences, and peer interaction tools. Learners can therefore independently choose the elements that interest them. These elements promote learners' active participation and sustained interest in the topic (Hrastinski, 2008).

Due to the fact that online education platforms are both research tools and platforms for on-site courses, data collection has become a particularly important aspect of demand (Onah et al., 2022). These good data collection and analysis features can evaluate participants' SDL levels, paths followed, interaction log data, achievements, and evaluation responses to satisfaction (Onah et al., 2021a). At this point, learners can conduct self-assessment, analyze their understanding, and monitor their progress in real-time. The feedback provided by these assessment tools helps learners identify areas for improvement and adjust their learning strategies accordingly (Knowles et al., 2011).

In addition to innovative SDL features, the platform should also integrate various recognized practical functions as much as possible to support learners and reduce participant dropout (Onah et al., 2022). Online education platforms typically cultivate community awareness through forums, group projects, and social learning tools. In addition to forums, online education platforms provide private information support for peer-to-peer and student to mentor discussions, as well as support for group discussions between students to increase social learning. These collaborative environments support SDL by allowing learners to interact with

peers and instructors, share knowledge, and receive feedback, all while maintaining autonomy (Bonk & Graham, 2006). Additionally, it can help those who are hesitant to speak up in public to communicate (Onah et al., 2022).

In China, many high schools and universities have also successfully applied the theory of self leadership to online education platforms. According to Wang (2020), Peking University actively promotes online education by utilizing its self-developed MOOC platform to provide a wide range of online courses. Students can choose courses based on their personal interests, arrange their own learning progress, and engage in online discussions and interactions. This platform emphasizes learner autonomy and encourages students to reflect and self evaluate during the learning process. At the same time, Zhejiang University utilizes smart learning platforms to provide personalized learning resources and tools for students. This platform uses data analysis to understand students' learning habits and recommend suitable learning content. Students can independently choose learning modules on the platform and engage in self-directed learning, which enhances their learning motivation and sense of participation (Liu, 2019). Besides, Shanghai Jiao Tong University implements self-directed learning through an online flipped classroom model. Students learn theoretical knowledge independently through online platforms before class, while group discussions and practical applications are conducted in class. This model enables students to delve into issues based on their own understanding and interests, while enhancing the interactivity of the classroom (Chen, 2021). The Shanghai High School International Division (SHSID), as a leader in creative teaching methods, is a prominent example. SHSID has accepted project-based learning (PBL) and flipped classroom as part of its curriculum reform. In PBL, students engage in real-world projects that require them to apply knowledge from different disciplinary fields, cultivate critical thinking and problem-solving skills. Flipped classroom includes students participating in teaching content at home through videos or online materials, allowing classroom time for discussions, activities, and hands-on projects (SHSID, n.d.). In addition, as one of China's top universities, Tsinghua University has been revising its curriculum to help students develop 21st century abilities. In order to cultivate innovative thinking and entrepreneurial attitude, the school has established innovation laboratories and interdisciplinary projects. These innovations have successfully applied the theory of self dominance to online education platforms.

In fact, in addition to the regions mentioned above, online education platforms are becoming increasingly popular in other parts of China, emphasizing the application of self led theory in teaching. In addition to the advantages mentioned above, there are also shortcomings. For example, if learners do not have strong self-management skills, they may encounter difficulties when using online education platforms, resulting in poor learning outcomes and a sense of frustration among students. In addition, while emphasizing autonomy, learners still need effective educational resources to support their learning process. If educational platforms fail to provide effective and sufficient support, it may affect learners' learning experience and achievement (Reddy & Andrade, 2011).

What are the challenges about online education platforms?

In this part, I will analysis some main challenges. Online learning platforms have been increasingly popular in China thanks to appropriate regulations and their effective application in a variety of settings. Nevertheless, despite these developments, some educators are still reluctant to use digital learning environments, which highlights obstacles and difficulties in the digital transformation of the educational landscape. Especially during the COVID-19 pandemic, many teachers were unprepared to suddenly use the online education platform for teaching (Harris & Jones, 2020).

The digital gap among educators is a major problem since some may not have access to the tools and training they need to use online learning environments efficiently. Although laws have been passed to encourage teachers to be digitally literate, institutions and regions have different regulations in place regarding accessibility and implementation. According to a study looking at how the digital gap affects Chinese instructors' perceptions of online learning, this disparity may impede the broader adoption of digital platforms (Li et al., 2020). Some educators may view digital tools as disruptive to existing teaching routines and instructional approaches, despite their potential to improve student engagement and learning results (Dai & Sternberg, 2020). And they think that the incorporation of online education platforms into classroom practices may be hampered by instructors' aversion to change, which is based in traditional teaching methods and pedagogical views (Huang, 2020). In Harris and Jones' (2020) study, a series of surveys and interviews were conducted to investigate teachers' readiness for online teaching. As they notes, the rapid shift to online learning exposed gaps in teachers' digital literacy and instructional design skills, impacting the quality of education delivered (Harris & Jones, 2020). Due to SDL's curriculum involving the creation of interactive and engaging content, educators need to provide clear guidance and facilitate student learning (Aguilar, 2020). In Aguilar's (2020) study on instructional design in remote learning environments, the focus was on the challenges faced by educators in creating SDL friendly online courses. Due to a lack of experience in instructional design, students may take poorly designed courses that do not engage them or encourage autonomous learning (Aguilar, 2020).

Moreover, due to the fact that many students are accustomed to direct supervision and guidance from teachers in traditional classrooms, it is often difficult for them to adapt when transitioning to online learning that requires high self-discipline. According to Knowles (1975), learners need to have strong intrinsic motivation and the ability to learn independently in order to effectively learn without external pressure. The inability to provide timely feedback on learning progress can also lead to a decrease in student engagement. The lack of face-to-face interaction is another factor leading to low student engagement. Traditional classrooms provide a dynamic environment where engagement is fostered through real-time interactions, immediate feedback, and a supportive learning community. Online platforms, however, often struggle to replicate this environment. Hodges et al. (2020) conducted a comprehensive review of online education during the COVID-19 pandemic, and studied various online learning platforms and their effectiveness. Their research emphasizes that many online platforms fail to provide sufficient interactive elements, such as on-site discussions and collaborative activities, which are crucial for maintaining student engagement and motivation. Lack of these elements often leads to a passive learning experience, where students may feel disconnected from the course materials and reduced engagement. The limited communication and interaction between students, teachers, and other classmates may lead to students feeling isolated, lacking a sense of belonging and participation (Picciano, 2002). According to study by Chinese academics Song Mi and Wang Chunmei (2005), there should be a greater focus on the quality of online education platforms as there are a growing number of them. The theory of self-directed learning states that learners need clear learning goals and high-quality learning resources to support their learning (Candy, 1991). Hu hang and others pointed out that the online education platform should pay attention to the collection of educational big data and the development of intelligent learning system (2019).

Indeed, the collection and feedback of students' learning information in the later stage is also the key to whether online teaching has logic and coherence. Timely and personalized feedback is crucial for SDL. It helps students monitor their progress, make necessary adjustments, and stay on track with their learning goals. However, many online platforms fall short in

providing effective feedback mechanisms. Van Dorp and van Gerven (2020) conducted a study on the effectiveness of feedback in online learning environments. Their research involved analyzing various online platforms and found that automatic scoring systems often fail to provide detailed feedback on complex tasks, which is crucial for SDL. This study emphasizes the impact of a lack of timely and personalized feedback on students' ability to self correct and make effective progress. As they notes, automated grading systems, while efficient, often lack the capability to offer nuanced and constructive feedback necessary for deeper learning (van Dorp & van Gerven, 2020).

Whether online education platforms can achieve fairness in education is also a point that has been questioned. Not all students have equal access to the technologies necessary for online education platforms, such as reliable Internet connectivity and appropriate equipment. This inequality will exacerbate the existing education gap, making it difficult for students from low-income backgrounds to fully participate in online learning (Eynon & Malmberg, 2021). Not all students have equal access to the technologies necessary for online education platforms, such as reliable Internet connectivity and appropriate equipment. This inequality will exacerbate the existing education gap, making it difficult for students from low-income backgrounds to fully participate in online learning (Eynon & Malmberg, 2021). In Eynon and Malmberg's study on the impact of digital inequality on online learning, the usage of online education platforms by students from different socio-economic backgrounds was analyzed. The research results show that students from low-income backgrounds have limitations in accessing technology and find it difficult to participate in online learning. This has also led to unequal distribution of educational resources. Less resource-rich schools and educational institutions frequently find it difficult to supply the online learning infrastructure. This covers technical assistance, professional development for instructors, and access to excellent digital resources. Reich et al. (2020) conducted a detailed study and investigation on the impact of resource availability on online learning during the COVID-19. In interviews with educators and administrators, it can be found that institutions with limited resources face challenges in providing sufficient online learning experiences. Resource differences can limit the availability of basic tools and support, thereby hindering the implementation of SDL in online education platforms.

When analyzing the challenges faced by online education platforms, it is necessary to take into account the specific national conditions of different countries. China, as a country with a rich history and traditional culture, attaches great importance to the respect and inferiority of the elderly and young. In education, the authority of teachers is also highly emphasized, and guidance on instructional education is highly valued; The most representative exam, Gaokao, is a representative of rote memorization in exam oriented education. Zhao and Sheng's (2021) research focuses on exploring the impact of the college entrance examination system on China's educational practice. Their research involves analyzing the impact of high-risk tests on teaching and learning, revealing that the college entrance examination system focuses on memory and preparation rather than self-directed learning. Although relevant policies have been implemented to reform the college entrance examination in recent years, the main teaching mode has not undergone significant changes. In the context of contemporary education models, cultural resistance to new educational methods, including SDL, may be a major obstacle (Huang, 2020). In this study, he investigated cultural and pedagogical barriers to SDL in different educational backgrounds. Through interviews and surveys with educators, students, and parents, it was found that deeply ingrained educational practices and cultural norms can hinder the adoption of SDL. Both mainstream educational ideas and resistance to new educational models are issues that online education platforms need to consider and further address.

The successful implementation of SDL requires educators to innovate in technology support, curriculum design, and teaching methods to create an educational ecosystem that supports learners' self-directed learning. Through these efforts, SDL can not only help learners achieve better academic results, but also cultivate their self-directed learning ability and lifelong learning habits, thus better coping with future learning and career challenges.

Conclusion

This research sought to explore the possibilities of self-directed learning (SDL) in online learning environments, with an emphasis on the advantages, methods of implementation, and potential drawbacks. Inquiry was guided by the following study questions: 1) Will SDL help learners learn? 2) How can SDL be successfully incorporated into online platforms? 3) What are the challenges and how can they be overcome in both synchronous and asynchronous environments? The purpose of this study was to close the knowledge gap on the particular use of SDL in online environments and to offer useful recommendations for platform developers and educators. The main purpose of this study is to explore whether SDL can be effectively integrated into online education platforms to improve learning outcomes. Therefore, the research aims to understand the benefits of SDL, determine the best practices for its implementation, and address the challenges associated with its integration, particularly in synchronous and asynchronous learning environments. In addition, the research mainly analyzes the situation in China.

According to the study, SDL greatly increases students' motivation, autonomy, and capacity for self-management, which improves learning outcomes and sustains engagement. SDL must be implemented in online learning environments in a way that strikes a balance between students' autonomy needs and teachers' assistance. To meet the different requirements of learners, online platforms need to include effective progress monitoring methods, extensive materials, and individualized learning routes. The study also found important obstacles, such as the high need for self-management abilities in asynchronous settings and the restricted amount of autonomous learning space in synchronous contexts. Proposed remedies involve maximizing class time and engagement in synchronous environments and offering precise objectives and well-organized materials in asynchronous settings. The findings are noteworthy because they show how SDL may be used to promote effective and active learning in digital contexts. Through elucidating the circumstances that foster successful SDL, this study offers significant perspectives for educators and policymakers seeking to improve virtual learning environments. By providing specific tactics for integrating SDL in online platforms, the study closes a significant vacuum in the literature. This is especially pertinent in the post-COVID-19 period, when digital learning has grown increasingly common. Academically, it contributes to a better understanding of SDL's function in online learning by offering implementation techniques and actual data on its advantages. The study provides educators and platform developers with practical tips to enhance the efficacy and engagement of virtual learning environments. These contributions are essential for encouraging lifelong learning, improving students' preparedness for the digital world, and modifying educational institutions to meet the demands of the twenty-first century.

When acknowledging its advantages and contributions, we should also pay attention to its limitations. The use of secondary data, which could not fully reflect the subtleties of SDL implementation in various circumstances, is one significant drawback. The findings may not be as broadly applicable as they may be if the variety of learners' backgrounds—including their degrees of motivation and self-regulation—had not been adequately taken into account. Furthermore, there was not a thorough examination of the psychological aspects of SDL, such as learning motivation and self-efficacy, which may have affected the success of the suggested tactics. Consequently, future studies

should concentrate on analyzing how different kinds of online learning platforms affect SDL while taking into account the technological and cultural environments in which they function. To create more thorough implementation techniques, research on the psychological components of SDL, such as the significance of motivation and self-efficacy, is also necessary. Furthermore, a longer-term study of SDL's impact on students' academic and professional growth would shed further light on the effectiveness and durability of the approach. Extending the study to encompass a wider range of educational environments and student demographics would enhance the validity and improvement of the suggested approaches.

In conclusion, by encouraging self-direction, motivation, and autonomy, SDL may greatly improve online learning, as this study has shown. The study gives educators and platform developers useful information by addressing major problems and offering workable implementation options. The study opens the door for more research to expand on these discoveries and further examine the possibilities of SDL in various online education environments, even as it acknowledges its limits. In the end, our research helps to develop online learning environments that are more efficient, interesting, and flexible—essential for the changing nature of education in the twenty-first century.

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The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Author Contributions

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About the Authors

Moira Brown
University of Glasgow, Glasgow, UK
Ruijie Ma

University of Glasgow, Glasgow, UK

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Bilateral Interaction between Mainland China and Hong Kong Audiovisual Products under the Perspective of Cross-cultural Communication

Zhengyi Zhou¹, Liuyi Zheng^{2*}, Yuxi Qi³

¹PhD Student of Anthropology, School of Sociology at Beijing Normal University, 100875, China

²Associate Professor, School of International Studies at Communication University of China, 100024, Beijing, China

³B.A. in Communication Studies, School of Art & Communication at Beijing Normal University Zhuhai, 519087, China

*Corresponding author: helenzheng@cuc.edu.cn

Abstract

At the present time, the dissemination of media represents one of the most significant methods of facilitating communication between disparate locations. The dissemination of cultural and creative products expressed in audiovisual formats facilitates cross-regional communication, thereby reinforcing the common culture within the group. Hong Kong, China and Mainland China represent distinct regions of the Han Chinese Cultural Circle. They not only reflect the cultural attractions within this cultural circle through a variety of media communication, but also respond to external cultural influences in the context of globalization. The latest figures indicate that Mainland China represents the largest outlet for Hong Kong's audio-visual products. However, the dissemination effect of Mainland products in Hong Kong is generally less pronounced than that of products from the United States and Japan. In particular, the United States has utilized the brand name of Hollywood films to disseminate its culture and values on a global scale through cross-cultural communication. While the shared culture provides audiovisual products with a lasting communication advantage in both Hong Kong and the Mainland, it can also be used at a later stage to further promote in-depth cultural exchanges and dissemination between the two places through policies, cooperation and cultural adaptations. However, this approach also faces challenges, including the USA's cultural leadership within traditional cultural circles.

Keywords : Audiovisual Products; Cross-cultural Communication; Chinese Movie; Cultural Anthropology; Hong Kong

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Introduction

The acceptance of audiovisual products reflects cultural influence in that area. Cultural soft power products reflect a culture's influence in a territory, defined as a blend of cultural, lifestyle, values, and national cohesion factors. It is the cultural and ideological appeal of a country that achieves control over people through the processes of attraction, appeal and assimilation, rather than through the use of force (Lu 2009:07). Media exchanges in film and television between mainland China and Hong Kong exemplify the cultural exchange and identity dynamics between these regions, which, while part of the same nation, exhibit distinct social systems. This paper focuses on audiovisual products, primarily films and television dramas, including animation, documentaries, and related media.

Cultural regions, shaped by specific historical and geographical contexts, are defined territorial units inhabited by people sharing common cultural traits and boundaries. Hong Kong and Mainland China, particularly the Guangdong region, share a historical background and cultural similarities, forming part of the Lingnan Cultural Circle. This shared heritage fosters common regional and cultural symbols. Despite the influences of Hollywood and Japanese animation, this cultural legacy is crucial in defining the

identity of both regions and ensuring sustainable communication. The subsequent section will examine the distribution of Mainland China's audiovisual products in Hong Kong and the international reach of Hong Kong's audiovisual outputs, highlighting the tension between local dissemination within the cultural circle and the effects of cross-cultural exchanges abroad.

Influence of Mainland China's audiovisual content in Hong Kong China

Overall competitive profile

Analysis of data over the past twelve years indicates a decline in the production of Mainland China's film and television products in Hong Kong, both in absolute terms and relative proportion. Despite a recent rebound in the last two years, the industry has yet to reach its peak, while pressures continue to mount. This article utilizes import data from Create Hong Kong to assess the reception of Mainland audiovisual products in the region. A comparative analysis of data from 2011 to 2022 was performed using vertical and horizontal examination methods. Further details are provided in the table below.

Table 1. Top Five Source Regions of Hong Kong's Imported Film and TV-related Creative Products, 2011-2022

(6) Creative products related to movies and television

(HKD)1000									
Ranking	2011			2012			2013		
	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#
1	Mainland China	1,766,485	35.9%	Mainland China	1,783,205	36.2%	Mainland China	1,228,297	31.5%
2	Japan	836,252	17.0%	Taiwan China	735,395	14.9%	Japan	589,283	15.1%
3	USA	652,788	13.2%	Japan	692,308	14.1%	Taiwan China	555,153	14.2%
4	Singapore	465,564	9.4%	USA	542,326	11.0%	USA	530,294	13.6%
5	Taiwan China	382,511	7.8%	Singapore	456,893	9.3%	Singapore	379,933	9.7%
(HKD)1000									
Ranking	2014			2015			2016		
	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#
1	Mainland China	855,517	23.1%	Mainland China	812,667	24.2%	Mainland China	819,727	25.7%
2	Malaysia	697,078	18.8%	Japan	628,886	18.7%	Japan	764,855	24.0%
3	Japan	674,652	18.2%	Singapore	533,192	15.9%	USA	524,782	16.5%
4	USA	571,571	15.4%	USA	451,493	13.4%	Singapore	433,899	13.6%
5	Singapore	379,386	10.2%	Malaysia	426,138	12.7%	Taiwan China	173,847	5.5%
(HKD)1000									
Ranking	2017			2018			2019		
	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#
1	Japan	1,139,843	35.0%	Japan	1,505,177	35.0%	Japan	1,555,657	34.5%
2	USA	642,664	19.7%	Ireland	652,716	15.2%	Ireland	849,589	18.8%
3	Mainland China	569,541	17.5%	USA	572,433	13.3%	Singapore	426,966	9.5%
4	South Korea	212,197	6.5%	Mainland China	456,496	10.6%	Mainland China	419,466	9.3%
5	Singapore	160,971	4.9%	Singapore	289,795	6.7%	USA	394,223	8.7%
Ranking	2020			2021			2022		
	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#	Place of origin	Value	Percentage#
1	Japan	1,357,719	34.3%	Japan	1,096,428	34.5%	Japan	684,202	29.1%
2	Ireland	609,045	15.4%	Singapore	639,888	20.1%	Mainland China	338,263	14.4%
3	Singapore	494,795	12.5%	Mainland China	354,296	11.1%	Ireland	306,852	13.0%
4	Mainland China	453,572	11.4%	South Korea	240,170	7.6%	Singapore	267,595	11.4%
5	South Korea	264,877	6.7%	Ireland	230,391	7.3%	South Korea	263,700	11.2%

Note: #As a percentage of the total import value of film and television-related creative goods in that year.

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Recent data from Create HK reveals that in 2022, Mainland China constituted 14.4% of film and television imports to Hong Kong, ranking second. Japan led with 29.1%, with its total value surpassing that of all other countries combined by over twofold.

The longitudinal analysis reveals a consistent decline in the acceptance of Mainland China's film and television products in Hong Kong, evidenced by a year-on-year decrease in market share. Specifically, from a peak of approximately HK\$1.77 billion (35.9% of the total) in 2011, the market share fell to HK\$0.86 billion (23.1%) by 2014. A further decline commenced in 2017, reaching a low of 9.3% in 2019, trailing behind Japan, Ireland, Singapore, and others. Although recovery signs emerged in 2021, with a rise to second place in 2022, it remained inferior to Japanese audiovisual products, which have been on an upward trajectory since 2016, consistently leading the market share.

The two charts reveal an inverse trend in the proportions of mainland China and Japan in Hong Kong, China, with mainland China declining and Japan increasing. Notably, 2016 marked a turning point, where mainland China's goods value and share over Japan showed only a slight edge, contrasting with the absolute advantage held by the mainland from 2011 to 2013.

Competitiveness of films produced in mainland China

Despite its relatively minor role in the Hong Kong film market, mainland Chinese cinema has begun to significantly influence the industry through extensive collaborations with Hong Kong filmmakers. A report by the Hong Kong Trade Development Council reveals that most partners in local film co-productions are from Mainland China. In 2023, of the 77 film co-production applications approved by the State Administration of Radio and Television of China, 60 were for projects with Hong Kong. Notable co-productions such as Detective vs Sleuths, Anita, and Better Days have garnered positive critical acclaim. Additionally, the Hong Kong International Film and TV Market (HKIFF) in March 2023 attracted over 7,300 international film representatives, including more than 330 exhibitors from Mainland China. In summary, the competitiveness and acceptance of mainland Chinese films in Hong Kong have been bolstered by ongoing collaborations with local industry professionals.

Status of issuance

Despite increasing collaboration between the Mainland and Hong Kong's film industries, Mainland films still represent a small share of the Hong Kong film market, as noted in the *Hong Kong Film Industry Compendium 2022*¹. In 2022, Hong Kong released

¹ The compendium is an annual collection of film information commissioned by the Film Services Office of Create Hong Kong

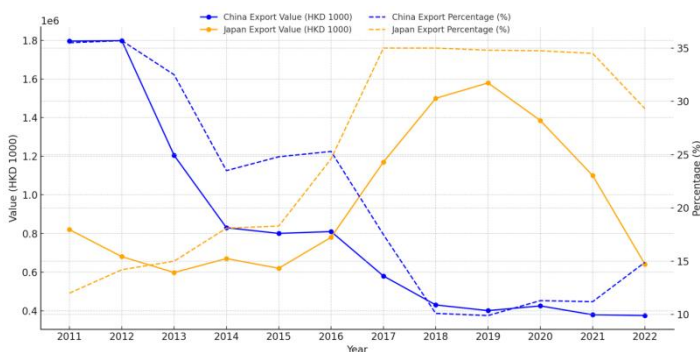


Figure 1. Export Value & Proportion of Film and TV-related Creative Products from Mainland China and Japan to Hong Kong, 2011-2022

216 films, with Mainland imports constituting 11.1% and foreign-language films 79.2%. In contrast, the Mainland's film market saw overseas imports at 16.3%.² This figure is significantly lower than the share of foreign films viewed in Hong Kong.

Table 2. Comparison of films released in Hong Kong in 2021 and 2022

	2021	2022	Up/Down Percentage
First-run movies released in Hong Kong	274	216	-21.17%
First-run Hong Kong movies released in Hong Kong (parts)	47	27	-42.55%
First-run non-Hong Kong films released in Hong Kong	227(36 of which are Chinese-language films)	189(18 of which are Chinese-language films)	-16.74%
Total box office for the year (HK\$)	1,228,513,113	1,164,318,938	-5.23%

Mainland Chinese films have limited box office impact in Hong Kong, attracting significantly fewer viewers compared to local and international films. Their influence is constrained by both the volume of imports and scheduling opportunities. In 2022, box office receipts for these films totaled approximately HK\$7.62 million, constituting only 0.65% of Hong Kong's total. Co-productions between Hong Kong and Mainland China saw a modest rise, reaching HK\$100 million, or 8.68% of the total. Nonetheless, the aggregate box office for both Hong Kong and Mainland films remained below 10%, indicating a restricted preference and acceptance among the Hong Kong audience for Mainland cinema.

Table 3. Box office receipts of films released in Hong Kong in 2022

	Cumulative Box Office (HK\$)	% of Total Box Office
Hong Kong movie box office	246,168,606	21.14%
Box office of co-productions between Hong Kong and Mainland China	101,017,795	8.68%
Chinese film box office	7,618,995	0.65%
Foreign language film box office	809,513,542	69.53%
The total box office revenue of Hong Kong movies in 2022	1,164,318,938	100.00%

Broadcast situation

Mainland Chinese films in Hong Kong lag behind both local and international counterparts in viewer numbers and release cycles. The highest-grossing film, *The Battle at Lake Changjin II*, attracted approximately 42,000 viewers and had an 80-day release period,

and conducted by the Hong Kong Film Industry Association (HKFIA).

² Data Referred to "In-depth Research and Development Trend Analysis Report on the Status of China's Motion Picture Industry (2022-2029)

marking it as the most successful mainland release in Hong Kong to date. In stark contrast, the top three Hong Kong films garnered nearly 600,000 viewers collectively, while the top 20 international films averaged around 300,000 viewers each, highlighting the limited market share of mainland films in Hong Kong.

Table 4. Distribution of Mainland Chinese films released in Hong Kong in 2022

	Title of the film (English)	Title of the film (Chinese)	Start Date	Completion Date	Number of days in theatres	Cumulative Box Office (HK\$)	Cumulative Number of viewers	Length of film (minutes)	Place of origin	Level	Type
1	Schemes In Antiques	古董局中局	21/04/22	11/05/22	21	77,336	1,180	124	China	II A	Adventure/Suspense
2	Ghost Wedding	冥婚	05/05/22	29/05/22	25	20,095	323	89	China	II B	Horror/Thriller
3	The Battle at Lake Changjin II	长津湖之水门桥	12/05/22	30/07/22	80	3,203,600	41,917	150	China	II B	Drama/War
4	My Best Friend's Breakfast	我吃了那男孩一整年的早餐	12/05/22	20/07/22	70	1,583,359	23,485	120	Taiwan/China	II A	Romance
5	Are You Lonesome Tonight?	热带往事	26/05/22	01/06/22	7	4,214	56	96	China	II B	Crime/Drama/Suspense
6	Before Next Spring	如果有一天我会离开你	02/06/22	02/07/22	31	78,179	957	108	China	II A	Drama
7	One Week Friends	一周的朋友	11/08/22	17/08/22	7	31,330	579	105	China	II A	Drama
8	Mozart From Space	外太空的莫扎特	25/08/22	07/09/22	14	8,538	151	136	China	II A	Comedy/Fantasy
9	Moon Man	独行月球	29/09/22	08/12/22	41	528,303	8,207	122	China	II A	Comedy/Science Fiction
10	Wolf Pack	狼群	29/09/22	08/12/22	41	230,057	4,483	105	China	II B	Action/Thriller/War
11	Mama Boy	初恋慢半拍	06/10/22	16/12/22	42	209,922	3,271	99	Taiwan/China	II A	Romance
12	Give Me Five	哥，你好	06/10/22	19/12/22	14	38,681	617	111	China	II A	Comedy/Drama
13	Goddamn Asura	该死的阿修罗	13/10/22	07/12/22	56	199,939	3,150	115	Taiwan/China	II B	Crime/Drama/Suspense
14	Home Coming	万里归途	03/11/22	28/12/23	87	983,644	14,349	138	China	II B	Action/Drama/Thriller
15	Golden Escape	黄金大逃狱	03/11/22	09/12/22	7	28,482	640	86	China	III	Crime
16	In Search of Lost Time	海的尽头是草原	17/11/22	21/12/22	35	136,453	2,042	125	China	I	Drama
17	Farewell Beijing	您好，北京	01/12/22	10/12/22	10	62,205	900	111	China	II A	Drama
18	Fantasy World	童话世界	15/12/22	20/12/23	37	194,658	3,266	110	Taiwan/China	III	Drama

Competitive situation

Mainland Chinese films have struggled for competitiveness in Hong Kong, yielding limited screenings and box office success. The top film by viewership, *The Battle at Lake Changjin II*, showcases high production values and large-scale war sequences set in the Mainland. Among Hong Kong-Mainland co-productions, *Warriors of Future*, a large-scale sci-fi action film, leads in viewership. To improve acceptance in Hong Kong, mainland films should consider increasing co-productions with Hong Kong, focusing on large-scale sci-fi or action genres, which could effectively enhance market share.

TV Competitiveness of Mainland China

Television Broadcasts Limited (TVB) is a leading television station in Hong Kong, recognized for its high-caliber drama productions. TVB's dramas have the capacity to attract significant viewership within Hong Kong and the global Chinese-speaking

audience, enhancing its influence and competitiveness. Since the 1990s, mainland Chinese dramas have been featured on TVB's Jade Channel as outsourced content, including notable early productions such as *Ke Wang*, *The Story of Hong Kong*, *The Spring and Autumn Chapter of the Eastern Zhou Dynasty*, and *The Water Margin*, with half categorized as costume dramas.

Mainland TV dramas have increasingly dominated the costume drama sector on Hong Kong TV, filling most programming slots. Concurrently, they are enhancing their competitiveness in Hong Kong's traditional genres, such as fashion, modern, and police dramas, via mainland-Hong Kong co-productions. The table below outlines the total number of TVB dramas aired over the past three years, categorized by genre³.

TVB prioritizes costume dramas for Mainland productions while leveraging its strengths in modern genres such as fashion, romance, and suspense. The mainland's influence in Hong Kong's TV industry is evident in its costume dramas, which feature elaborate costumes and sophisticated themes. Co-productions predominantly focus on action and police dramas, areas where Hong Kong excels.

In 2023, TVB aired 27 dramas, marking the first simultaneous release of Hong Kong dramas on both TVB and Mainland's Youku, specifically *QUEEN of News and Narcotics Heroes*. Additionally, seven outsourced series and six Mainland films were broadcast, constituting 22.2% of the total. Notable titles include *A League of Nobleman*, *Dead Ringer (Media Asia)*, *Destined*, *Eightfold Path of the Heavenly Dragon*, *New Life Begins*, *Side Story of Fox Volant*, and *Forensic JD* (co-produced by Emperor & Tencent). The channel maintains a focus on historical costume dramas while diversifying into genres such as ancient puppet dramas, martial arts series, and costume suspense dramas.

Table 5. List of TVB main broadcast TV series in 2024

Episode Title	Episode Type	Broadcast Channel	Air Date	Broadcast Time	Finale	Episode Number (of a TV series etc)
Death Hint	Fashion /Police /Suspense drama	Jade Terrace	-	To be determined	-	30
Gourmet Affairs	Outsourced/ Crime Drama	Jade Terrace	-	To be determined	-	12
The Heir To The Throne	Purchased/B usiness Drama	Jade Terrace	13-May-24	20:30-21:30 [Monday to Friday]	21-Jun-24	30
Broken Trust	Fashion Comedy	Jade Terrace	6-May-24	21:30-22:30 [Monday to Friday]	31-May-24	20
Sinister Beings II	Fashion /Suspense Drama	Jade Terrace	1-Apr-24	20:30-21:30 [Monday to Friday]	10-May-24	30
Story of Kunning Palace	Purchased/C ostume Drama	Jade Terrace	25-Mar-24	21:30-22:30 [Monday to Friday]	3-May-24	30

³ Data source <https://www.yule.hk/>

Episode Title	Genre	Broadcast Channel	Air Date	Air Time	Finale	Episode Number
In Bed with Stranger	Fashion/Ro mance/ Suspense Drama	Jade Terrace	26-Feb-24	20:30-21:30 [Monday to Friday]	29-Mar-24	25

The 2024 data reveals that TVB plans to air 14 dramas, including three outsourced titles: *Gourmet Affairs*, *The Heir to the Throne*, and *Story of Kunning Palace*. The remaining productions consist of Taiwanese dramas, Mainland-Hong Kong co-productions, and Mainland Chinese costume dramas, adhering to established criteria. Notably, these co-productions involve Media Asia and Youku. The share of mainland dramas remains stable at 14.3%, consistent with the 10-20% range seen in prior years.

TVB imports Korean, Japanese, and American dramas, but these have not aired on the main channel, Jade, in recent years, instead being shown on J2 and the Asian Drama Channel for Japanese and Korean content, and on Pearl Channel for American dramas. In contrast, mainland dramas have secured about one-fifth of the Hong Kong TV drama market share, with the remainder predominantly held by local productions.

Table 6. Mainland dramas broadcasted by TVB in prime time in the past two years⁴

Vintages	Stage Name (of a play)	Viewership	Total Number of Episodes	Total Airtime (weeks)
2023	Side Story of Fox Volant	16.45	120	24
	New Life Begins ⁵	17.3		
	Eightfold Path of the Heavenly Dragon	15.4		
	Destined	19.2		
2022	The Imperial Coroner	23	84	16
	Royal Feast	19		
	A Dream of Splendor	19.8		

The table of TVB's prime-time broadcasting data over the past two years reveals a significant rise in the airing of Mainland costume dramas from 8:30pm to 9:30pm nightly. Despite this increase, ratings have consistently declined year-on-year, with the average rating for Mainland dramas dropping below 20 points by 2023, peaking at 25.5 points for TVB's *The Invisibles*. The highest rating for a Mainland drama, previously 31 points for *Story of Yanxi Palace*, has been diluted by the influx of new broadcasts, which has fragmented audience attention. Additionally, the aesthetic appeal of these dramas has diminished due to thematic and genre repetitiveness.

Animation industry

Hong Kong remains the primary export market for mainland China's animation industry, representing nearly 50% of export volume. The mainland's substantial production capacity and recent quality improvements have bolstered the global momentum of local animation. According to the National Bureau of Statistics, animation exports reached 36.62 million yuan in 2016, with approximately 70% directed to Asia, and Hong Kong accounting

⁴ Data source <https://www.yule.hk/>

for about half of this, solidifying its status as the largest export region.

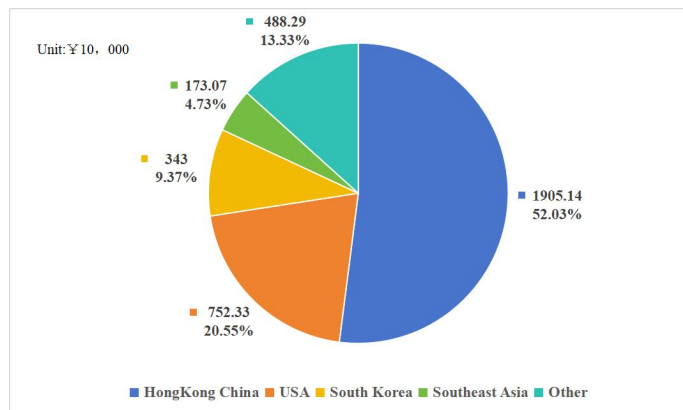


Figure 2. Main regions and countries of China's TV animation exports, 2016

Documentary film industry

Currently, documentaries produced in Mainland China are primarily marketed in Hong Kong through a series of cultural events co-organized by the two cities, as well as participation in Hong Kong film festivals. For instance, the documentary section of the biennial Hong Kong Asian Film Festival (HKAFF) has drawn a great number of exceptional mainland films to compete.

To commemorate the 25th anniversary of Hong Kong's return to China in 2022, the CGTN (China International Television) Documentary Channel of China Central Radio and Television (CCTV) broadcasted the entire channel in Hong Kong, bringing viewers a series of documentaries on China's culture, as well as great mountains and rivers. In 2023, the CGTN Documentary Channel aired a season of China's Art Exhibition in Hong Kong. In 2023, the "Continuing Civilization, Blooming Bauhinia" Chinese Arts Hong Kong Season launched in Beijing and Hong Kong, and more than 30 documentaries and feature films showcasing the excellent traditional Chinese culture were broadcasted in Hong Kong through the CGTN Documentary Channel in the near future.

Overall, the number of mainland audio-visual items imported into Hong Kong is tiny, their impact is limited, and the trend is down year after year. This is due to competition from a variety of exceptional outside items, as well as the launch of fewer outstanding indigenous products in Hong Kong. In the future, as Mainland and Hong Kong exchanges expand and cooperation in creative industries such as television and film intensify, cultural commonalities will deepen the acceptance of audiovisual works from both regions.

Major competition for mainland Chinese audiovisual content in Hong Kong

USA: Hollywood films

Hollywood in the United States creates a number of films each year for global distribution, garnering the majority of the local audience, and the market in Hong Kong, China is no different. According to the Hong Kong Film Industry Sourcebook 2022, 60 of the foreign films imported that year were from the United States, accounting for approximately 30% of the total number of foreign films imported, making it the single country with the most imported films. Six of the top ten box office hits that year came from Hollywood, with the Marvel franchise accounting for half of the total. Hollywood's sci-fi blockbuster franchise has grown throughout the years, drawing spectators from all around the world.

The box office champion of the year was *Avatar: The Way of Water*, a Hollywood sci-fi film series that created the first 3D film in film history. Hollywood studios will also continue to cultivate new sequels in case audiences tire of the existing ones (Peng 2015:09). Just like this *Avatar* series. For the film industry, the development of film technology has undoubtedly had a positive impact, and spectacle films, with the support of technology, can better satisfy the viewing needs of audiences (Xu 2016).

Not only do American films continue to attract a large number of viewers, but so do their box office receipts. Of the 17 imported overseas films that drew more than 100,000 viewers, 14 were American, primarily action-adventure films, with the remaining three being Japanese. The duration of American films in Hong Kong has likewise hit a record high. For example, *Top Gun: Maverick* had the longest release duration, lasting 203 days. The remaining nine overseas films with a distribution length of more than 100 days included six American films and three Japanese anime. Because of their widespread distribution and extensive global coverage, Hollywood films have contributed to the myth of the Hollywood cinema empire around the world, increasingly squeezing and destroying the survival space of films from other nations, making it harder for them to compete.

Japan: The popular anime culture

The volume and influence of Japanese audiovisual products in Hong Kong, China, has long been strong. Since the 1990s, contemporary Japanese culture has been widely prevalent in Hong Kong. Many of these Japanese animation programs may be seen on Hong Kong television, and prominent anime at the time included *Doraemon* and *Pokémon*. In this century, with the political support of Japan's official vision of e-Japan and concept of ABCDE, including ALL Japan, Brand Japan, Cool Japan, Digital Japan and E-tech Japan programmed (Jing 2006:04), A wide range of Japanese cinema and entertainment items have been pushed internationally. According to Creative Hong Kong's import data for Hong Kong's film and television products, Japan has held the top spot in the introduction of overseas film, television, and other related products to Hong Kong since 2017, accounting for up to 35%, which is more than 15 percentage points higher than second place. Japan's film, television, and animation industries will continue to have a significant impact on Hong Kong, China, for the foreseeable future.

According to the Hong Kong Film Industry Compendium 2022, 56 Japanese films were imported into Hong Kong in 2022, trailing just 60 films from the United States. Among the top 22 films with a box office of more than HK\$5 million, Japanese films came in second with four, three of which were Japanese animations. In terms of release time, only three Japanese films, *Jujutsu Kaisen 0*, *Evangelion: 3.0+1.0 Thrice Upon a Time*, and *Detective Conan: The Bride of Halloween*, remain on the list of films released for more than 100 days, aside from those from the United States, demonstrating the influence of Japanese animated films on the Hong Kong film market. Notably, all of the above are sequels to long-running serial comics or anime, illustrating the continued influence of Japanese animation culture in Hong Kong.

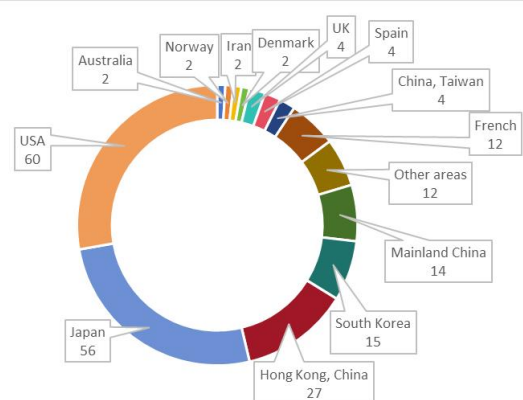


Figure 3. Origin distribution of films released in Hong Kong in 2022

Hong Kong: The Resurgence of Local Industries

Within Hong Kong's domestic market, both the hardship of Hong Kong films in the film industry and the crisis of falling performance that has struck Television Broadcasts Limited (TVB) in the television business have placed doubt on the future of Hong Kong's audiovisual industry. The poor performance during the outbreak has pushed this issue to the forefront. However, in the post-epidemic era, we can see that with the industry's recovery and continued cooperation with the outside world, Hong Kong's local audiovisual product market remains strong, occupying a certain

Table 7. Hong Kong Local Films Released in Hong Kong in 2022

	Title of the film (English)	Title of the film (Chinese)	Start Date	Completion Date	Number of days in theatres	Cumulative Box Office(HKS)	Cumulative Number of visits	Length of film (minutes)	Languages
1	Warriors of Future	明日战记	25/08/2022	03/02/2023	163	81,821,966	1,120,891	101	Cantonese
2	Table For Six	饭戏攻心	07/09/2022	08/03/2023	183	77,395,003	1,162,277	120	Cantonese
3	Mama's Affair	妈妈有了第二个	11/08/2022	27/03/2023	229	43,990,654	622,457	126	Cantonese
4	The Sparring Partner	正义回廊	27/10/2022	15/06/2023	232	43,012,421	574,802	138	Cantonese
5	Chilli Laugh Story	阖家辣	14/07/2022	16/11/2022	126	32,624,642	489,504	92	Cantonese
6	Detective Vs Sleuths	神探大战	21/07/2022	16/09/2022	58	16,223,882	249,270	102	Cantonese
7	Hong Kong Family	过时，过节	24/11/2022	31/01/2023	69	12,514,991	188,561	113	Cantonese
8	Far Far Away	缘路山昏晃	04/08/2022	21/12/2022	140	10,701,849	162,236	96	Cantonese
9	The Narrow Road	窄路微尘	22/12/2022	13/04/2023	113	8,462,006	125,681	116	Cantonese
10	Sunshine Of My Life	一路瞳行	15/09/2022	09/07/2023	298	4,855,087	75,982	96	Cantonese
11	Life Must Go On	深宵闪避球	06/10/2022	03/12/2022	59	3,645,941	54,164	94	Cantonese
12	Love Suddenly	忽然心动	17/11/2022	11/01/2023	56	2,146,562	29,293	94	Cantonese
13	Septet: The Story of Hong Kong	七人乐队	28/07/2022	05/10/2022	70	1,742,642	27,704	112	Cantonese
14	Look Up	一样的天空	23/06/2022	15/10/2022	115	1,434,833	21,498	118	Cantonese
15	Let It Ghost	猛鬼3宝	27/10/2022	30/11/2022	35	1,306,809	19,780	100	Cantonese
16	Tales from the Occult	失衡凶间	15/09/2022	12/10/2022	28	885,888	13,729	107	Cantonese
17	Breakout Brothers 3	逃狱兄弟3	02/06/2022	05/07/2022	34	720,691	10,487	87	Cantonese
18	Don't Forget I Love You	不要忘记我爱你	26/05/2022	30/06/2022	36	641,672	9,329	127	Mandarin
19	Pretty Heart	心里美	28/07/2022	04/09/2022	39	588,922	8,737	99	Cantonese
20	A Murder Erased	被消失的凶案	16/06/2022	03/08/2022	49	485,903	8,482	108	Cantonese
21	Breakout Brothers 2	逃狱兄弟2	28/04/2022	08/06/2022	42	481,945	7,987	86	Cantonese
22	Come Back Home	搜救	03/11/2022	10/12/2022	38	445,874	7,510	102	Mandarin Cantonese
23	Burning	焚身	30/06/2022	03/08/2022	35	428,111	6,716	86	Cantonese
24	Love is Blind, Hate Too	致命24小时	02/11/2022	08/11/2022	7	209,846	2,328	88	Cantonese
25	Phanlom Or The Opera	粤剧灵	14/07/2022	07/09/2022	56	180,470	2,318	99	Cantonese
26	Hero	世间有她	17/11/2022	14/12/2022	28	141,759	2,346	116	Mandarin Cantonese
27	Just 1 Day	给我1天	23/07/2022	20/08/2022	29	98,032	939	98	Cantonese

A new record in Hong Kong's film history

The breakout film *A Guilty Conscience*, which was released in 2023, demonstrated the promise of the Hong Kong market in the context of the Chinese film market's overall resurgence. In terms of box office, *A Guilty Conscience* grossed HK\$115 million, making it the first Chinese-language picture in Hong Kong cinema history to cross the 100-million-yuan box office barrier. It is now the highest-grossing Chinese-language film in the Hong Kong market. It is ranked tenth all-time in terms of box office revenue, with Hollywood films accounting for the top nine. The overwhelming impact and box-office success of Hollywood films, as well as their ability to draw money, make it difficult for national films to look up to them, and they can only collectively fall into the embarrassing situation of "losing words". In a group of Hollywood blockbusters to murder out of *A Guilty Conscience* to the Chinese cinema audience has instilled confidence, many Hong Kong film fans stated, looking forward to Hong Kong and Chinese films returning to the top.

As a New Year's film, *A Guilty Conscience* expertly blends the somber, solemn atmosphere of a courtroom with the lightheartedness of a New Year's greeting. The film follows Lam Leung Shui, played by Wong Tze Wah, a lawyer who fights against

local market share in Hong Kong, and in the past two years, many hit productions have emerged and won the favor of both the market and the audience.

According to the "Hong Kong Film Industry Compendium 2022," box office receipts for Hong Kong-produced films totaled HK\$246 million in 2022, accounting for 21.14% of the overall market share and placing third outside of the United States and Japan. *Table for Six* and *Warriors of Future* were among the films with more than one million spectators, with the latter grossing more than HK\$81 million and ranking third in the Hong Kong film market after two other American films.

the powerful and wealthy to uphold the rule of law in order to protect a single mother entangled in a false case of daughter abuse. The film's realistic subject matter, combined with the lead actors' sincere performances, earned it high praise from Hong Kong viewers, and it went on to win Best Film at the 42nd Hong Kong Film Awards in 2024.

The glorious return of Hong Kong drama

In November 2023, the Hong Kong Television Broadcasts Limited (TVB) celebratory drama the *QUEEN of News* debuted on the Youku platform with little fanfare and drew a large audience over the next half-month, with consistently high broadcast numbers and ratings. This also reveals a new side to the long-dormant mainland TVB dramas, which appear to be gaining traction as Hong Kong-produced dramas return to prominence. In 2023, among all Hong Kong dramas, the *QUEEN of news* obtained the highest rating of 27.9 points, ranking third on the year-end ratings list, behind *Narcotics Heroes* with 28 points and *The Invisibles* with 28.7 points⁵. However, the *QUEEN OF NEWS* has already shattered records across numerous platforms in the mainland and

⁵ Data source https://yule.sohu.com/a/748768638_121721261

has been recognized as the most critically acclaimed Hong Kong drama this year.

With Hong Kong actress Charmaine Sheh returning to TVB as the female lead after many years, the drama series deviates from the classic themes of Hong Kong dramas, such as law and order and police brutality, and tells the story of internal competition for coverage within a news organization, which not only provides a refreshing change of pace for viewers, but also reflects the fruits of mainland-Hong Kong cooperation. The most important way to transform TVB's television industry in recent years is to strengthen co-production with the mainland, especially filming and production in collaboration with mainland online platforms, in order to increase the influence of TVB dramas by distributing them to the mainland through mainland online platforms (Huang 2020:34). Mainland platform Youku has been working with TVB since 2013, and in 2022, the concept of "New Hong Kong Drama" was established, allowing the mainland and Hong Kong production strengths to merge to develop higher-quality dramas with fresh concepts. In terms of division of labor, Youku will provide one-stop services to TVB and other Hong Kong film and TV production businesses, including front-end planning, data analysis, and marketing, while the Hong Kong team will maintain its traditional production strengths developed over time. Xie Ying, Vice President of Youku and General Manager of the Drama Centre, stated in an interview that "the *QUEEN of news* is the first example to be examined after the concept of 'New Hong Kong Drama' was proposed. According to Youku data, the *QUEEN of News* has broken the record for Hong Kong dramas on the platform in terms of broadcast volume and membership revenue, resulting in exponential growth in the broadcast data of the other two dramas in Youku's "Hong Kong Drama Theatre," *Modern Dynasty* and *Dead Ringer*. The *QUEEN of news* has garnered over 1.4 billion reads on Weibo and over 2.6 billion video views on Douyi.⁶

On the opening day of the Hong Kong International Film and TV Market (HKIFF) on March 11, this year, the official announcement that the original cast of *The Queen of News* will be returning to begin filming the second portion of the film aroused eyebrows. Ali Dawen Entertainment also unveiled the "Hong Kong Arts Revitalization Plan" at the festival, announcing that it will invest no less than HK\$5 billion over the next five years in the four major areas of Hong Kong drama, film, performance, and young talent training, while also constructing a global second headquarters in Hong Kong to "drink from the same river and re-create the glory of Hong Kong films" alongside Hong Kong's top film companies. Youku will also continue to invest in Hong Kong's film industry⁷, including investment in heavyweight dramas such as *The Golden Era* and *The Heir to the Throne*, including *The Queen of News 2*. In the near future, Hong Kong-produced dramas will hit unprecedented heights thanks to the combined efforts of the two cities.

To summarize the Hong Kong audiovisual market, Hollywood culture in the United States is the primary competitor of local audiovisual products in all countries, particularly in the film sector. In Hong Kong, due to historical immersion in Western culture and geographical importation of neighboring Japanese culture, the local audiovisual product market has formed a pattern of dual leadership by "American blockbusters" and Japanese animation, while the remaining weak market is still fought for by Hong Kong's outstanding local film and television productions. Despite the fact that the overall number of Hong Kong films is comparable to those of other countries with a single director team. Hollywood directors are fortunate to produce one film every three years, but most Hong Kong directors produced films on a regular basis prior to the recession. Productivity is a good tradition here. (Bordwell 2003). As a result, mainland audiovisual products enjoy little visibility and

influence in Hong Kong. Despite having a shared Chinese cultural circle, the media environment is nonetheless heavily influenced by worldwide audiovisual products.

Export of audiovisual content from Hong Kong, China

Overall export performance

According to Create HK data, the entire export value of Hong Kong's film and TV-related items has declined over the last 12 years, falling from approximately HK\$690 million in 2011 to HK\$300 million in 2022. Details are provided in the table below.

Table 8. Top 5 Regions in terms of Export Value of Hong Kong's Film and TV-related Creative Products, 2011-2022

(6) Creative products related to movies and television

Ranking	2011			2012			2013			(HKD) 1000
	Destination	Value	Percentage	Destination	Value	Percentage	Destination	Value	Percentage	
1	Mainland and China	33,980	49.5%	Mainland and China	23,240	44.8%	Mainland and China	18,900	44.8%	
	Taiwan	48,700		Taiwan	40,350		Taiwan	44,270	10.5%	
2	China	4,710	7.1%	Japan	9,370	7.8%	Japan	7,390		
	Japan	4,940	6.7%	Germany	6,470	7.2%	Singapore	8,370	9.3%	
4	Brazil	40,840		USA	35,920		Taiwan	30,280		
	Germany	40,360	5.9%	Brazil	28,560	6.9%	China	27,500	7.2%	
5	Germany	5,590	5.9%	Brazil	1,550	5.5%	USA	7,650	6.5%	
Ranking	2014			2015			2016			
	Destination	Value	Percentage	Destination	Value	Percentage	Destination	Value	Percentage	
1	Mainland and China	18,000	42.2%	Mainland and China	12,390	44.9%	Mainland and China	13,670	59.1%	
	Singapore	52,390	12.3%	Taiwan	37,690	13.7%	Taiwan	25,820	11.2%	
3	Japan	36,850		China	34,840	12.6%	China	16,490		
	Taiwan	36,220	8.6%	Japan	2,230		Japan	7,150	7.1%	
4	China	5,290	8.5%	Singapore	70,400	8.6%	Singapore	54,100	6.7%	
	Australia	29,540		Macao	14,610		Macao	9,400		
5				China	3,530	5.3%	China	12,410	4.1%	
Note: #As a percentage of the total value of Hong Kong exports of film and television-related creative goods in that year.										
Ranking	2017			2018			2019			
	Destination	Value	Percentage	Destination	Value	Percentage	Destination	Value	Percentage	
1	Taiwan	19,100	56.2%	Taiwan	14,840	44.3%	Mainland and China	12,640	69.1%	
	China	31,270		China	16,420		China	37,720		
2	Mainland and China	94,870	27.9%	Mainland and China	14,130	42.1%	Taiwan	26,720	14.6%	
	China	2,210		China	03,140		China	3,100		
3	Japan	21,420	6.3%	Japan	6,100	4.2%	Japan	3,210	5.6%	
	Thailand	7,412	2.2%	Singapore	05,500	3.0%	New Zealand	5,660	3.2%	
5	Macao	7,300		Macao	6,860		Macao	4,480		
	China	10,220	2.2%	China	86,190	1.9%	China	62,270	2.7%	
Ranking	2020			2021			2022			
	Destination	Value	Percentage	Destination	Value	Percentage	Destination	Value	Percentage	

⁶ Data from <https://www.eeo.com.cn/2023/1215/619489.shtml>

⁷ See <https://www.1905.com/news/20240312/1665681.shtml> for details

	n	gc#	n	gc#	n	gc#
1	Mainland	33	88.0	Mainland	14	66.4
	China	3,7	%	China	7,1	%
	Taiwan	22,		Taiwan	46,	
2	n	26		n	31	20.9
	China	7	5.9%	China	7	%
3		4,9			16,	
	Japan	14	1.3%	Japan	5	7.3%
	Macao				28	
4	China	4,2	1.1%	Singapore	5,1	2.3%
		08		Macao		
					3,2	
5	Netherlands	2,8	0.8%	China	99	1.5%
		59				

Note: #As a percentage of the total value of Hong Kong exports of film and television-related creative goods in that year.

Mainland China as the top export region

According to the most recent yearly data from Creative HK, the largest percentage of Hong Kong's film and TV-related creative products flowing overseas in 2022 remained Mainland China, accounting for 77.5 percent, which is consistent with the overall trend over the years. Over the last 12 years, only in 2017 did Hong Kong, China's exports to the mainland China ranks second in overall exports, after only Taiwan, China. For the remainder of the year, Mainland China has slowly risen to first place in Hong Kong's exports, and the Mainland has become Hong Kong's largest consumer of film and television productions. Actually, this trend began toward the close of the last century. In the 1990s, Mainland, China reduced the introduction of TV dramas from countries with marked cultural differences from China and the East, such as Europe, America, Latin America, etc., while TV dramas from Hong Kong, Taiwan and East Asia, such as Singapore and South Korea, increasingly entered the country and were generally well received by Chinese audiences (Yin 2001:04).

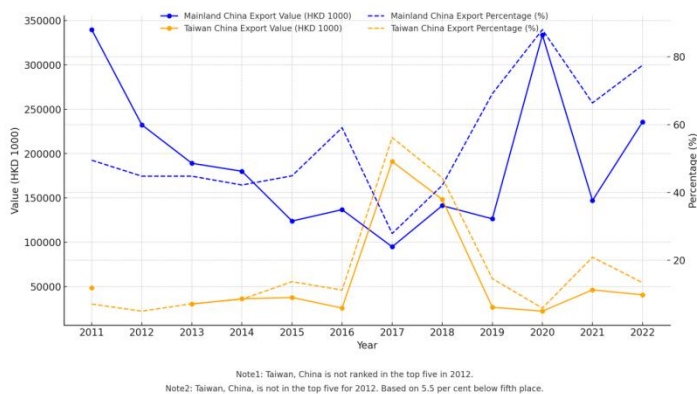


Figure 4. Value & Proportion of Hong Kong's Exports of Film and TV-related Creative Products to Mainland China and Taiwan, 2011-2022

Compared to mainland China, which is firmly at the top of the export list, Hong Kong's second largest export region is Taiwan, China, which is also a Chinese-speaking country. As seen in the table above, Taiwan's export value peaked at 56.2% in 2017, making it Hong Kong's top export area for the second consecutive year in 2018. And starting in 2019, the mainland became the largest market for it.

Neighboring Chinese-speaking Circle as the main export area

From the perspective of target countries and regions, Hong Kong, China's key export areas are mostly Chinese culture and

surrounding regions such as China, Taiwan, Macao, Japan, Singapore, and others. Taiwan, specifically. In the period 2011-2013, the top five countries included Brazil, Germany, the United States, and other Western cultural circle regions, but after that, it was mainly neighboring countries and regions, and the top five major export regions have remained stable throughout the years among Taiwan, Singapore, Japan, China, and Macau, with occasional countries such as the Netherlands, Australia, and New Zealand occupying a small share, from which we can see that the internal attraction. This demonstrates that the internal appeal of the common culture has grown in recent years. One of the primary causes for the emergence of the Chinese cinema and television scene is the same Cultural-Linguistic Market. (Hesmondhalgh 2002).

Policy promotion role of the Mainland and Hong Kong

Mainland China's position as Hong Kong's largest market for audiovisual products is based not only on a shared cultural background and history of cooperation, but also on governmental support from both countries, which continues to strengthen their efforts. The Mainland-Hong Kong Closer Economic Partnership Arrangement (CEPA) grants Hong Kong's audiovisual services sector preferential access to the mainland's massive entertainment media market. The mainland's specific commitments to Hong Kong's trade in services under CEPA were implemented in 2016, and the Hong Kong and mainland governments later signed a revised agreement, effective June 1, 2020, that includes new liberalization measures for a number of sectors, including the film and television industries. And, as can be seen from the data in the table above, 2020 is precisely the peak of Mainland China occupied Hong Kong, and its share of exports reached 88%, demonstrating the strength of policy backing.

Competitiveness of Hong Kong Films Going Overseas

Overall, after years of development, Hong Kong films are mainly projected to neighboring regions with common cultural backgrounds, and are not only exported to mainland China and Taiwan, but also gain recognition in the professional fields of neighboring countries by being selected as the opening or closing films of world-class film festivals, for example, in 2021, *Anita* was selected as the closing film of the 26th Pusan International Film Festival; and *Keep Rolling* was selected as the opening film of the 16th Osaka Asian Film Festival.

Films Going Overseas

According to the "Hong Kong Film Archive 2022" report, nine Hong Kong films were released in the Mainland that year, with six of them being co-productions between the two countries. The total box-office income was 1.539 billion yuan. In Taiwan, 12 Hong Kong films were released in 2022, grossing NT\$8.09 million.

In terms of overseas figures, Hong Kong's exports to other countries are limited compared to Mainland, China, Taiwan etc. In 2022, 10 films were released in Singapore, with a box office gross of S\$577,000; 10 films in Malaysia, with a cumulative box office gross of RM8,259,000; 3 films in South Korea, with a cumulative box office gross of \$381,000; 1 film in North America with a cumulative box office gross of 21 million yuan; 3 films in Australia with a cumulative box office gross of 257,000 yuan; 3 films in New Zealand with a cumulative box office gross of 25,000 yuan; and 5 films in the United Kingdom with a cumulative box office gross of 244,000 yuan.

Overseas promotion

Hong Kong promotes foreign distribution and copyright collaboration for local products by hosting a series of film festivals. The Hong Kong International Film and TV Market (HKIFF), held annually in Hong Kong, attracts a big number of film professionals

from other nations and regions while also promoting a huge number of Hong Kong film and TV products abroad. Since its beginning in 1997, the HKIFF has helped to strengthen Hong Kong's status as a regional international cinema distribution hub, and it is well-known in the industry for hosting new film debuts, exchange programs, and professional seminars. Because of its unique position as Asia's film trade hub, Hong Kong has been chosen as the first Asian city to host Cannes Film Week in 2019.

Aside from acquiring the distribution rights to Hong Kong films, outside production companies are also acquiring the rights to reshoot them. According to a report on Hong Kong's film and entertainment sector published by the Hong Kong Trade Development Council, the South Korean films *Believer* and *Mujeogja* are remakes of Hong Kong films released in 2018 and 2010. The Oscar-winning picture *The Departed* (2006) is actually a remake of *Infernal Affairs* (2002). *The Plot*, a South Korean adaptation of the same-titled Hong Kong action film, has finished filming and will be released in 2024. The choice of copyrights for the remake has further improved Hong Kong films' international visibility.

Overseas Recognition of Hong Kong Performers

Hong Kong filmmakers have established themselves in both the Eastern and Western film markets. Tony Leung Chiu-wai, for example, became the first Chinese actor to win the Lifetime Achievement Award at the Venice Film Festival in 2023, while Louis Koo won his first best actor award at the 12th Asian Film Awards, and Kara Wai received the Excellence in Asian Cinematography Award. Yuen Woo Ping has also become a well-known martial arts director in Hollywood. Many Hong Kong actors and actresses, including Chow Yun-Fat, Corey Yuen, Donnie Yen, Jackie Chan, and Michelle Yeoh, have achieved success in both the East and West film industries.

Promotion of Hong Kong Government Policies

The Hong Kong Government established the Hong Kong Film Development Council (HKFDC) in 2007 to promote the development of Hong Kong's film industry, which includes advising on policies, strategies, and institutional arrangements for the film industry's promotion and development, as well as providing financial support.

To foster a healthy film industry ecosystem, the Hong Kong Trade Development Council has released a report on Hong Kong's film, television, and entertainment industries, revealing that the Hong Kong government injected HK\$1 billion into the Film Development Fund in 2019, the largest injection since the Fund's inception in 1999. At the same time, the Hong Kong government has put in place five new and improved initiatives to help the industry generate value, including the Passing on the Torch Scheme, the Script Incubation Programmer, and a variety of free short-term training courses. As of October 31, 2023, the FDF had received 61 applications for the "Film Production Financing Scheme," 10 for the "Film Production Funding Scheme," 9 for the "Passing on the Torch Scheme," and 24 for the "Script Incubation Programmed." A total of 61 applications were received for the Film Production Financing Scheme, 10 for the Film Production Funding Scheme, 9 for the Passing on the Torch Scheme, and 24 for the First Feature Film Scheme, with 284 other film-related projects being approved. As of the end of October 2023, the FDF had approved almost HK\$1,058 million to assist a variety of local film production projects.

In the 2023 Policy Address, the Hong Kong Government proposes injecting HK\$4.3 billion into the Film Development Fund (FDF) and the Create Smart Initiative (CSI), as well as launching two initiatives, the Mainland China Film Development Funding Scheme and the Europe-Asia Cultural Exchange Film Production Funding Scheme, to support Hong Kong films and investment projects aiming to enter mainland Chinese and international film markets. The Hong Kong Arts and Cultural Industries

Revitalization Scheme, announced at the annual Asian Industry Copyright Market and Hong Kong International Film and TV Market (FilMart) in 2024, investing HK\$5 billion (US\$640 million) in Hong Kong's creative industries over the next five years, bringing together Hong Kong film and TV companies such as Shaw Bros. and Emperor Entertainment Group, Alibaba Group, Edko Films, Media Asia, Universe Entertainment and other companies to develop broadcast channels on streaming media platforms such as Alibaba and Youku, so that Hong Kong's film and television industry can go global in the context of cooperation based on the Greater Bay Area⁸.

Competitiveness of Hong Kong Television Overseas

Overall, the main markets for Hong Kong's television industry remain outside, with audiences mostly targeting the Chinese-speaking people, however shows in other languages are also transported overseas to cater to non-Chinese-speaking audiences. Geographically, mainland China remains Hong Kong's most important market. Hong Kong television broadcasters have also been awarded the authority to land and transmit television programming to millions of households in Mainland China, and under the CEPA, television programmes co-produced by the Mainland and Hong Kong will have greater market access. Currently, satellite transmission and overseas landing rights are the primary means for Hong Kong's television industry to expand internationally, while broadcasting on streaming platforms such as Netflix is increasingly becoming popular.

The continued rise of mobile streaming platforms

Mobile over-the-top (OTT) platforms are currently thriving, serving as Hong Kong's primary foreign broadcasting channel and source of revenue. The majority of Television Broadcasts Limited's (TVB) most recent television shows can be viewed on its mobile app, myTV Super. TVB Anywhere App, the abroad version of myTV SUPER, was released in late 2016 to provide OTT services primarily to international markets. TVB Anywhere will provide over 40,000 hours of TVB television content by the end of 2022. As of June 2023, myTV Super had 10.4 million registered members, making it the largest internet TV (OTT) platform in Hong Kong.

ViuTV, operated by Hong Kong's Television Entertainment, started in April 2016 and provides free-to-air and on-demand services. By the end of 2022, Viu OTT's paid subscriber base had increased by 45 percent to 12.2 million, growing its OTT operation to over 170 markets. After ceasing transmission in April 2016, Asia Television Digital Media Limited (ATV) established its mobile terminal in January 2018 to resume transmitting shows. Global platforms are gradually growing their operations in Hong Kong. For example, Netflix started its OTT service in Hong Kong in January 2016, while Disney+ was formally launched in Hong Kong on November 16, 2021⁹.

Ongoing co-operation with Mainland platforms

A number of Hong Kong television stations have also collaborated with Chinese internet television platforms to promote

⁸ The Guangdong–Hong Kong–Macao Greater Bay Area, commonly as the Greater Bay Area (GBA), is a megalopolis, consisting of nine cities and two special administrative regions in South China. It is envisioned by Chinese government planners as an integrated economic area aimed at taking a leading role globally by 2035.

⁹ The above figures for the television industry are derived from the Hong Kong Television and Entertainment Industry Report published by the Hong Kong Trade Development Council.

Hong Kong television content, introducing Hong Kong-produced television dramas and co-productions to the mainland. In 2020, Hong Kong Television Broadcasts Limited (TVB) and the mainland-based Youku platform inked a partnership agreement, with both sides preparing for content production, artist promotion, market expansion, and the discovery of new business models. HKTVB and streaming site Youku will collaborate to make TV dramas, which will be released simultaneously on both platforms. TVB, the only Hong Kong TV broadcaster having mainland landing rights, is currently collaborating with streaming services, with approximately 300 TVB dramas available on Youku, Tencent Video, and other mainland video platforms across a variety of genres. Through co-production, content licensing, and streaming, TVB will create new opportunities for the Group's film and television programming in mainland China and abroad.

As a representation of Hong Kong's television industry, Television Broadcasting Limited (TVB)'s development history indicates the pattern and course of the industry's expansion to the Mainland. As early as 2004, TVB received licenses for the Jade and Pearl channels to air in Guangdong province. In 2013, it began licensing its self-produced material to Youku and other Mainland long-form video platforms. It began co-producing films and television series with Mainland entrepreneurs in 2017, and plans to separate its Mainland and TV broadcasting businesses in 2020. In March 2018, a Group affiliate created the smartphone app Maiduidui in the Mainland, which acts as TVB's only official streaming platform in the mainland and contains a considerable amount of copyrighted content. Furthermore, TVB's total Mainland social media followers will reach 112 million by the end of 2022, and three live streaming accounts on Douyin will be established to promote Hong Kong-specific products.¹⁰ In 2023, TVB signed a \$700 million framework cooperation agreement with Youku to deliver co-productions, simulcasts, and stock dramas over the next two years. By collaborating with the mainland streaming platform, Hong Kong's film and TV products will receive increased attention and development opportunities.

Overall, Hong Kong's audiovisual products are still mostly sold to the Chinese mainland, encompassing numerous regions and countries in the adjacent Han cultural circle, with the trend continuing to spread them to the world's huge Chinese-speaking population. In the future, depending on the rate of integration of the Greater Bay Area, Hong Kong audiovisual products can leverage its policy advantages, excellent local production traditions, and overseas exchange experience to further disseminate its audiovisual products to the Mainland market, as well as actively develop co-productions to promote its exceptional experience to the Mainland audiovisual products industry. At the same time, Hong Kong can use its geographical location to organize a series of film and television exhibitions, acting as a bridge for Mainland audiovisual products to travel abroad to trade and communicate with international distributors and producers.

Development trend of audio-visual products in the two places under the vision of globalization

Although the Mainland of China and Hong Kong share the same cultural circle, there is a shared aesthetic brought about by culture, resulting in a large market for Hong Kong products on the mainland. On the contrary, if Mainland audiovisual products lack production and genre advantages, they will be challenged by the impact of globalization and products with cultural leadership, represented by the Hollywood culture of the United States, in the Hong Kong market, putting them at a disadvantage. These cultural leaderships, as Gramsci says, are not attached to violent institutions,

nor do they rely on strong arm tactics such as coercion or compulsion, but instead leave a degree of choice to the dominated group (Zhang 2021:12(24)). As a result, Hong Kong citizens chose their own Japanese and Hollywood audiobooks, and changing their watching habits took a long period.

Even this viewing habit has influenced the distribution of mainland Chinese films in Hong Kong. As a result of the influence of large-scale Hollywood film productions in the United States, people in Hong Kong, and indeed most of the regions influenced by American cinema culture, have progressively developed a liking for films with large scenes and the science fiction genre, among other things. While it is true that this style of film stresses the benefits of the big screen above parental drama in the movie experience, it is also obvious that most regions' viewing habits have been impacted by the major genres of American-dominated film. This is demonstrated by the fact that *The Battle at Lake Changjin II*, the top mainland film launched in Hong Kong, remains a popular style of cinematic expression with grandiose scenery. Dramas, on the other hand, continue to maintain regional cultural features because they are longer than films, have longer episodes, and have fewer distribution platforms, resulting in slower cultural transmission. As a result, mainland Chinese costume dramas continue to dominate Hong Kong's television business to this day.

In the future interaction between Hong Kong and mainland audiovisual products, the universality of local culture and the diverse influence of foreign culture in the Hong Kong market should be considered in order to develop effective countermeasures. Based on the description and analysis of the data presented above, this article outlines the four patterns that will emerge in the development of audiovisual products in the two locations.

Mainland costume dramas have significant advantages in Hong Kong

Based on the Mainland dramas released by the Hong Kong television industry each year, Mainland China's costume dramas have formed their own brand identity in the Hong Kong market, symbolizing beautiful works that combine history, drama, culture, storyline, and costume. China is an ancient culture with a rich historical and cultural legacy, making it an ideal setting for the creation of historical dramas, ancient plays, martial arts dramas, and biopics. These genres provide a unique possibility for Chinese TV dramas to spread internationally (He & Yang 2012:08). The Competitiveness of Mainland China's costume dramas currently rank top in the Hong Kong market. Although the ratings of each drama series have declined as their number has increased, Mainland dramas continue to dominate the costume drama genre. In the future, the mainland will enter the costume drama market and develop various themes, such as martial arts, history, idols, detectives, and so on, in order to use the costume theme as the foundation for creating hit dramas based on various themes and to play up the attraction of the common cultural circle.

Opportunities for co-operation such as co-productions of dramas between the two places will continue to deepen

At the 2024 Hong Kong International Film and Television Market, mainland company Alibaba Entertainment announced the Hong Kong Arts Revitalization Scheme, with an investment of at least HK\$5 billion, while the Hong Kong government invested HK\$4.3 billion in the creative industries and launched programs such as the Mainland Film Market Development Funding Scheme. It is clear that both locations plan to collaborate to build their respective markets and foster cooperation in various sectors of audiovisual material in order to launch high-quality film and television productions. As a result, the mainland audio-visual industry will continue to embrace the trend of collaboration and rely on the macro planning of the Greater Bay Area's integrated

¹⁰ The data is sourced from a research report on Television Broadcasts Limited published by Haitong International in 2023.

development, in order to gradually increase Hong Kong residents' familiarity and awareness of mainland audio-visual content through co-productions of films, television dramas, and so on.

The continued rise of online platforms such as streaming media

With the present trend of viewing audiovisual content on mobile phones, Hong Kong residents have established the practice of watching movies and dramas on numerous applications on their phones. Hong Kong Television Entertainment's Viu OTT and Hong Kong Television Broadcasts Limited's myTV Super are the best examples, with each having over 10 million registered users. Based on the operational advantages of mobile streaming platforms such as Youku and Aiqiyi, as well as Hong Kong's ever-increasing mobile viewing habits, the mainland will gradually expand its platforms to the Hong Kong market and make appropriate improvements to meet the local market's viewing habits.

Influence of policy effects will gradually increase

The Mainland audiovisual sector can grow its share of the Hong Kong market by enacting relevant policies. According to the data presented above, Mainland films accounted for only 11.1% of Hong Kong's annual film releases in 2022, which is significantly lower than the 80% share of Mainland local Chinese language films in the mainland market. On the contrary, 171 foreign-language films will be released in Hong Kong, or 79.2% of the total. Taking into account the viewing habits of Hong Kong audiences and the trend of cooperation between the two places, the Mainland relies on the policy of increasing the amount of Cantonese auditioned content and guiding more releases to the Hong Kong market in the form of more co-produced films and co-produced dramas in the first instance, until the later stage of the public's spontaneous and seamless connection between Mainland and Hong Kong Chinese-language films and dramas, and the formation of a new viewing habit for Mainland audiovisual productions.

Conclusion

Comparing statistics over the last decade, we can observe that the interaction between audiovisual products from Mainland China and Hong Kong has grown, with one becoming a vital market and supplier for the other. This aspect not only highlights the historical and cultural similarities between the two regions, but also the potential for future cooperation between the Mainland and Hong Kong in light of the Greater Bay Area's overall development. The continuing collaboration between the two areas in launching more audio-visual items not only adds to the export of shared Chinese culture, but it also generates conditions for strengthening the Han cultural circle and developing a single cultural identity for people from both places.

This development tendency has a significant practical impact on the entire film and television publishing sector in both locations. Not only does it redirect the industry's development orientation back to the local region with specified aims, but it may also target the development of exceptional audiovisual works with specific themes and content, as well as how to choose, distribute, publicize, market, and so on. in the future, such as the Mainland and Hong Kong, which are the four primary development tendencies outlined in the preceding paragraphs. With this massive amount of co-production investment and co-distribution, the borders between Hong Kong and mainland films and TV dramas will become progressively blurred, and the industry will witness the creation of a completely new genre of films that combine the talents of both sides.

Theoretically, we may see a clash and friction between global and local culture in this Hong Kong region. The global culture dominated by the United States has expanded swiftly over the world thanks to the Hollywood-centered approach to cinema, and

the values communicated in the films are being identified by an increasing number of people. Globalization has had an impact on the reproduction of local culture, as well as the survival of its monocultural circle. The case of Hong Kong's cinema and television goods demonstrates a parallel phenomenon of two cultures dominated by American films and locally produced television dramas. Hong Kong's audiovisual sector practices both unconscious inheritance and purposeful development of Chinese culture, while also embracing globalization and showcasing its unique cultural features of East-meets-West fusion.

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Author Contributions

Not applicable.

About the Authors

Zhengyi Zhou

PhD Student of Anthropology, School of Sociology at Beijing Normal University, 100875, China

Liuyi Zheng

Associate Professor, School of International Studies at Communication University of China, 100024, Beijing, China

Yuxi Qi

B. A. in Communication Studies, School of Art & Communication at Beijing Normal University Zhuhai, 519087, China

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Silver Economy Industry Market Consumption Characteristics Research

WanluWu^{1*}, Ying Shi², Yuting Wu^{3*}

¹Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

²Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

³Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

*Corresponding author: 12611192@qq.com

Abstract

This study focuses on the consumption characteristics of the silver economy industry market. The silver economy refers to the total economic activities generated by providing products and services to meet the special needs of the elderly. Due to the imbalance in global population development, this economic phenomenon has significant regional characteristics worldwide. This study focuses on the consumption characteristics of the silver economy industry market, revealing the uniqueness of the consumption behavior of this group and market potential through in-depth analysis of the silver economy. In the market analysis section, we conducted a detailed study on the market size and growth trends of the silver economy in terms of consumption, services, and products, finding that it is showing a rapid development trend. Especially as the demand of the elderly for industries such as health, entertainment, and information technology is gradually increasing, this phenomenon reflects the diversification of the silver market in industrial structure. Through an in-depth analysis of the competitive situation of the main participants, we found that many companies in the market are enhancing their competitiveness by innovating services and personalized products. In-depth research on consumption characteristics reveals that the elderly are increasingly tending to rational choice and brand loyalty in consumption decisions, and the attention to quality and safety has significantly increased, forming a unique consumption psychology. This paper also discusses the impact of the policy environment on the silver economy, proposing systematic policy support suggestions, including strengthening community elderly care services and promoting the application of smart technology, to provide support for the sustainable development of the silver economy. It is expected to provide theoretical references and practical guidance for policymakers and industry practitioners in related fields.

Keywords : Silver economy ; Industry market ; Consumption characteristics

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Introduction

In 1950, the global population was about 2.5 billion, and the number of people over 65 was about 130 million. As of the end of 2023, the global population has exceeded 8 billion, and the number of people over 65 is about 750 million, and the phenomenon of global population aging is becoming more and more obvious. Starting from the 1970s when Japan introduced "silver seats" reserved for the elderly, the concept of the silver economy gradually emerged. The silver economy is the sum of economic activities generated by providing products and services to meet the special needs of the elderly, which not only covers the consumption behavior of the elderly themselves but also includes products and services developed for the needs of the elderly. By discussing the characteristics of the silver economy and deeply understanding the consumption needs of the elderly group, it can help promote the growth and development of the social economy.

According to data from the United Nations, by 2050, the global elderly population is expected to reach 2 billion, accounting for more than 20% of the total population. Such a huge elderly consumer group contains a huge market value. Since the consumption psychology and behavior of the elderly are significantly different from other age groups, in the research process of the silver economy, attention should be paid to their special needs to stimulate the consumption potential of this group.

Literature Review

In 1864, France became the first aging country, followed by Norway and Sweden, which also began to enter the aging stage. Western developed countries entered the aging stage earlier and have conducted in-depth research. Combining the research of multiple scholars, the silver economy can be defined through three key elements: first, the age characteristics of the target group, usually referring to the elderly group aged 65 and above; second, the related consumption fields, including medical care, daily consumption, leisure tourism, and life services, etc.; third, industrial market innovation, that is, the redesign of products, business models, and technical application scenarios around the needs of the elderly.

Laperche, B. (2018) believes that innovation in products and services for the elderly has promoted the development of the silver economy in France. Marcucci, G. (2021) analyzed and discussed the emerging trends of the silver economy through bibliometric methods. A. Klimczuk (2021) discussed the silver economy as a constructive response to aging public policy, emphasizing that the silver economy is not only about creating social welfare and private profits but also a public policy issue, which should be reflected in industrial policies that promote the development of the silver economy. Caridà, A. (2022) discussed how to transform the silver economy into gold through technology, emphasizing the power of technology in the silver economy, especially the application of service robots in the elderly care scenario. Cai, F. (2024) provided an industrial solution for the silver economy, which can fill three growth gaps on both the supply and demand sides. Cai, F. believes that the silver economy should play a leading role in the new

development concept, creating new growth forces for the economy by promoting the development of multiple industries.

At the same time, there are some other views in the academic community on the silver economy. For example, some studies point out that the definition of the silver economy should more broadly consider the interaction between the elderly and other social groups, emphasizing the cross-generational economic relationship, and should not be limited to the one-way consumption behavior of the elderly, but should pay attention to their active participation in social and economic activities. The elderly should not only be passive recipients of services but also participants in social and economic activities and even promoters of industrial innovation.

Methodology

Literature Research Method

Through the literature research method, understand the development process of the bank economy, the current market size. Moreover, analyze the market structure of the silver economy, discuss the basic situation of supply and demand in various sub-markets, as well as existing problems, and propose suggestions.

Comparative Analysis Method

By comparing and analyzing the social environment of the silver economy industry in various countries, including the macroeconomic environment and the characteristics of population aging, analyze the development situation of the silver economy.

Discussion and Analysis

The market size and growth rate of the silver economy are steadily increasing

The silver economy, as an important research hotspot in the fields of finance and socio-economics, is rapidly developing globally and has become an important consideration for policy formulation and market layout in various countries. When analyzing the development situation of the silver economy, it is necessary to focus on the market size, growth rate, and trends, especially the differences in different countries and regions. The analysis of the market size of the silver economy industry not only needs to count the current market valuation but also should make reasonable predictions based on dynamic forecasting models.

According to the "2024 World Population Prospects" report released by the United Nations, the number of people aged 65 and above worldwide is expected to reach 1.6 billion by 2050, almost doubling compared to 761 million in 2021. The proportion of people aged 65 and above worldwide is expected to increase from 10% in 2023 to 16.5% in 2050, and this proportion will reach 24% by 2100, meaning that the competitive market demand will increase.

According to the report by Factview Research, the global silver economy market size was valued at about 5.5 trillion US dollars in 2023 and is expected to reach 8.5 trillion US dollars by 2032, with a compound annual growth rate (CAGR) of 5.0%.

The growth of the silver economy is not evenly distributed. In some countries, such as Japan and Germany, the proportion of the elderly population is as high as 30% and 23%, respectively, and the growth rate of the silver economy significantly exceeds the young population market. This phenomenon is particularly prominent in Japan, where the market for elderly products and services is expected to grow at a rate as high as 10% in the next five years.

Based on Maslow's Hierarchy of Needs, the consumption needs of the elderly can be divided into five levels

The Maslow's Hierarchy of Needs, proposed by psychologist Abraham Maslow, categorizes human needs into five levels: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. The fulfillment of lower-level needs is a prerequisite for pursuing higher-level needs.

Based on Maslow's theory, the needs of the elderly can be divided into five levels:

First, the elderly have the most basic physiological needs for food, water, sleep, and cleanliness, which can be met through services such as meal delivery and housekeeping.

Second, they also focus on health security, physical safety, and financial stability, which are their safety needs.

Third, they desire to establish connections and a sense of belonging, which can be satisfied by providing services like senior communities, travel, and cultural entertainment.

Fourth, they seek respect and recognition from society, which can be achieved through the development of senior education, training, and volunteer services, allowing the elderly to contribute and gain a sense of value and achievement.

Fifth, some elderly individuals, after meeting their basic needs, will pursue self-actualization, which can be supported by encouraging senior entrepreneurship and providing platforms for artistic creation, enabling them to continue pursuing personal interests and development.

These five levels of needs for the elderly form the foundation of the silver economy's industrial structure and are key to its development.

The industrial structure of the silver economy shows a trend of diversification

The structure of the silver economy industry is complex, involving products and services including life services, medical care, daily consumption, pension finance, leisure tourism, and high-tech products. These fields are not only important pillars of the silver economy but also reflect the increasing diversification of elderly consumer needs.

Life Service Industry

With the gradual improvement of the quality of life requirements for the elderly, the life service industry for the elderly has also gradually developed. For example, services specifically for the elderly, such as health cleaning, home appliance cleaning, assistance in buying medicine, supermarket shopping, bathing and hairdressing, daytime care, and meal delivery, have gradually become emerging industries with expanding market size. For example, some platforms specifically provide internet-selected home services for elderly users, and their rapid rise indicates the importance of life services in meeting the mobility and daily life needs of the elderly.

Medical Care Industry

The medical care industry is one of the most important components of the silver economy, accounting for a significant proportion of the total consumption of the elderly group, especially the demand for products related to the "Longevity Industry" and "Health Management" shows a significant growth trend. In addition, with the popularization of smart health devices and the development of remote medical services, it meets the urgent needs of the elderly group for disease prevention and health management.

Daily Consumption Industry

The consumption concept of the silver generation is gradually changing, from "keeping the money bag" to "spending money to buy comfort and satisfaction," paying more attention to the quality of products and services, and focusing on brands.

Pension Finance Industry

According to the special needs of the elderly, the financial industry services are reconstructed. For example, elderly trust funds provide full-life cycle pension planning services for customers through cross-period management and asset isolation advantages. Steady financial products meet the needs of the elderly for fund safety and stable returns, such as pension insurance and pension savings. Real estate pension finance provides property insurance and other value-added services through the "house for pension" model, converting real estate into pension funds. Pension fund custody services provide one-stop services such as account management and investment transactions for the elderly, ensuring fund safety and convenient use.

Elderly Leisure Tourism Industry

The elderly leisure tourism market is developing rapidly, showing a diversified consumption trend. The elderly pay more attention to the quality, comfort, safety, and health preservation of tourism, preferring natural landscapes and historical and cultural landscapes, and have high requirements for safety and service quality during tourism. The market has seen the emergence of various products such as health tourism, cultural tourism, and leisure vacation, integrating health, culture, and social elements.

High-tech Products for the Elderly

With the development of technology, more and more high-tech products are applied to assist the elderly. For example, wearable devices and smart home systems can monitor the physiological data of the elderly in real-time, such as heart rate and blood pressure, and timely warn of health risks. Through the Internet of Things technology, the elderly can remotely control lights, air conditioners, TVs, etc., at home, enhancing the convenience of life. Smart security systems, including smart cameras and door and window sensors, ensure the safety of the elderly's homes.

The competitive situation of the silver economy industry shows heterogeneity

When discussing the competitive situation of the silver economy industry market, it is necessary to systematically analyze the number of market participants, market share, and competitive strategies. The number of market participants in the silver economy shows a diversified trend, including various entities from innovative startups to traditional large enterprises. This diversity brings rich vitality to market competition, and at the same time, it also leads to a significant heterogeneity in the competitive strategies among different companies.

The distribution of market share is worth paying attention to. According to the latest statistical data, the main participants in the silver economy, including e-commerce platforms targeting elderly consumption, health management service providers, and financial technology companies, have become a major feature of the current competition with an unbalanced market share. By conducting in-depth research on the consumption habits and preferences of the elderly population, companies can quickly adjust their product strategies to gain an advantageous position in the growing silver market.

The diversification of competitive strategies shows that different companies have different grasps of market opportunities. In terms of development strategies, many participants have chosen a differentiated competitive path to meet the changing needs of elderly consumers. For example, companies focused on smart home products enhance user experience and loyalty by providing user-friendly devices and 24-hour online customer support. In contrast, some companies use a cost leadership strategy to expand market coverage by reducing the prices of products and services, although this strategy may affect product profitability.

The consumption characteristics of the silver economy show unique psychological characteristics

Analyzing from the consumer's perspective, the consumption characteristics of the silver economy show unique psychological needs and behavioral habits. Using the "Consumer Behavior Analysis Model" to deeply understand the consumption characteristics of elderly consumers when choosing products and services for analysis. The consumption psychology of the elderly group varies significantly due to different life experiences, physical conditions, and socio-cultural backgrounds.

Compared with the young consumer group, the silver generation generally pays more attention to the practicality and safety of products. For example, when choosing health care products, they are more inclined to choose products that have been clinically verified rather than novel consumer goods on the market. This phenomenon is partly due to the elderly's emphasis on health and also reflects their high attention to brand reputation.

In terms of behavioral habits, the consumption pattern of the silver generation shows a more cautious and planned side. They usually take a longer time to compare products and collect information, such as comparing the evaluation and price of different products on online platforms. This behavior is not only related to the elderly group's pursuit of cost-effectiveness but also shows their gradually developing digital literacy in the digital environment. It is worth noting that in recent years, with the popularization of smartphones, the proportion of elderly consumers shopping online has significantly increased, even reaching more than 40%, indicating that they are good at using new technologies in the consumption process.

Suggestions

It is necessary to provide corresponding policy support for the silver economy industry

In recent years, as the "silver economy" has increasingly become an important driving force for economic development, governments of various countries have introduced a series of policies to support the rapid development of this industry. From the supply side, the government has set up special funds and provided tax incentives to encourage enterprises to innovate and invest in the "silver economy" field. For example, China's "Silver Industry Development Special Fund" aims to promote the research and application of products, services, and technologies oriented to the needs of the elderly and has gradually become an important financing source for related enterprises. At the same time, in terms of improving the technical capabilities of market entities, the government guides vocational training and the training of elderly service personnel in the industry through policy orientation, thereby improving the professional quality and service level of practitioners.

Increase the coordination and specificity of silver economy policies

Elderly care issues are typically handled by civil affairs departments, but innovations in the elderly financial industry also involve financial regulatory authorities. It is crucial for government departments to establish a multi-departmental collaboration mechanism to ensure that policies are effectively coordinated during implementation. For example, policies for the silver economy need to be jointly formulated and executed by at least the civil affairs department, the health and wellness department, and the financial regulatory department.

Furthermore, it is important that special funds are directed towards key industries in the silver economy. A list of key industries and technologies in the development of the silver

economy should be identified and supported with special funds, ensuring that the funds are truly used for key technologies such as smart elderly care and rehabilitation assistive devices.

Increase innovation and service improvement in silver economy products

In today's society, the rise of the silver economy is not only a reflection of demographic changes but also brings new market opportunities. Currently, the industrial structure of the silver economy is becoming more diversified, and the competitive landscape is increasingly heterogeneous. Only by focusing on the five major needs of the elderly and continuously innovating products and improving services can we seize market opportunities.

For the home service industry, can services like in-home haircuts and bathing assistance be booked with a single click through a smart platform? In the medical insurance industry, can each elderly person have a dedicated health manager who provides 24-hour remote medical consultation services? For the daily consumer industry, can a convenient shopping channel that integrates online and offline be provided for the elderly? In the elderly financial industry, can a dedicated financial manager be assigned to each elderly person to develop customized retirement products and ensure the safety of their financial assets?

Conclusion

The silver economy is not merely a one-way consumption behavior by the elderly; it is a complex and interactive economic system and an important part of complete social activities. It encompasses all stages from production, distribution, and circulation to consumption, involving various sectors such as catering, healthcare, elderly care, finance, and tourism. The development of the silver economy not only meets the diverse needs of the elderly but also creates new job opportunities and economic growth points for society. Moreover, it promotes the optimal allocation of social resources and drives the upgrading of industrial structures. With policy support and market innovation, the silver economy is becoming an important engine for promoting high-quality social and economic development. Ensuring that every elderly person is well cared for, secure, and happy is essential for achieving a harmonious, stable, and fulfilling society.

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Author Contributions

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About the Authors

Wanlu Wu

Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

Ying Shi

Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

Yuting Wu

Faculty of Economics and Law, Jingdezhen Vocational University of Art, China

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