

Research on the Development Path of Intangible Cultural Heritage Creative Products for Dahei River Qiandao Lake from the Perspective of School-Enterprise Collaboration

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Abstract: *There is a generation gap in whether to focus on the inheritance of intangible cultural heritage or market orientation. Organisations of school-enterprise cooperation will help to solve this problem. The intangible cultural heritage of the Dahei River-Qiandao Lake Area is the result of the combination of Mongol-Yuan culture and Central Plains agricultural culture, and its cultural codes are closely related to the distribution of water areas and agricultural-pastoral cycles in space. Based on the four-link analytical framework of resource identification, value reconstruction, product transformation and market adaptation, this paper finds that the main reason for the loss of knowledge transfer at the linguistic, temporal and evaluative interfaces is an insufficient deepening of cooperation. Based on the above, this paper proposes the reconstruction of rights and responsibilities in light of capability complementarity, puts forward a parametric translation mechanism for cultural genes, and establishes a layered benefit-sharing system under dual-rights confirmation to provide strong theoretical support for the cross-border development of cultural products.*

Keywords: *School-enterprise cooperation, intangible cultural heritage, cultural and creative products, Dahei River-Qiandao Lake, cultural translation*

Introduction

The creation of works based on intangible cultural heritage should be rich in culture and also meet the demands of the market. If neither dimension is available, then the product will not be added to the culture or the market. Universities have an organised system for knowledge creation, and enterprises have experience in supply chain management and market operation. Together, the two will help to link the idea of culture with people's emotions for it in daily life. Most of the previous studies have not paid much attention to the micro-level mechanism of knowledge interaction in school-enterprise cooperation, and in particular, the constraints on the transmission efficiency of different knowledge paradigms to development results have been overlooked. The area of the Dahei River-Qiandao Lake is an intersection of agricultural and pastoral cultures, and it is a good place to study the problems mentioned above because of its ecological significance and the spatial distribution of intangible cultural heritage resources. Analyze the structural problems of school-enterprise cooperation in this area in this paper and study the three components of cooperation demand, the point of efficiency loss and path optimisation.

1. Theoretical Basis for the Development of Intangible Cultural Heritage Creative Products and Logical Generation of School-Enterprise Collaboration

1.1 Product Transformation Mechanism of Intangible Cultural Heritage Resources

In fact, the transformation of intangible cultural heritage into cultural and creative products is an inter-domain migration of cultural resources from their original environments to the intersection of commodity circulation. There are good folk handicrafts, festivals and ecological knowledge systems of Mongol-Yuan culture in the Dahei River-Qiandao Lake area. Resources are spread out in various places and change at different speeds. There is an unavoidable conflict between the need to protect the original form of intangible cultural heritage and the market orientation of cultural and creative products.

Therefore, it will be organised in a hierarchical manner; that is to say, resources of intangible cultural heritage and visual elements that can be extracted as symbolic materials should be distinguished from production techniques that can be preserved as the core of craftsmanship and meaning structures that can be conveyed through cultural narratives, and thus assigned to different productisation paths.

The first link in the transformation is not only the collection of materials but also how to reconstruct the encoding-decoding relationship among traditional knowledge systems and modern aesthetic concepts. There are certain mathematical proportional relationships and orientational symbolic logics in the geometric patterns of folk embroidery in the area of Dahei River and Qiandao Lake, and the shape of traditional tools is also functionally optimised for the aquatic environment. The first aim of product-oriented resource translation is to offer a basis and bounds for product design in the form of basic rules, rather than general carrier patterns^[1].

1.2 Structural Motives for School-Enterprise Collaboration in ICH Creative Product Development

School-enterprise cooperation is not an external addition to cooperation; rather, it is an organisational response that naturally arises from the development of creative works in intangible cultural heritage. Universities have built an organised system for the knowledge production of cultural resource organisations, planned innovation research and development, created brand systems, and at the same time, enterprises are good at market response, efficient supply chain management and channel distribution. At the most basic level, the creation of value in ICH creative works should be based on rich cultural description and market orientation. The former needs to know about the anthropology of culture, and the latter should be market-oriented and commercially successful. The two types of knowledge creation are not in harmony, so schools and enterprises have not been collaborating in this area.

Together, we will also address the issue of the "ecological suitability" of the intangible cultural heritage in the Dahei River and Qiandao Lake area. A relatively large number of ICH practices have appeared that are related to the use of water, seasonal migration and pastoral nomadism, and their cultural codes are closely linked to certain natural rhythms and spatial patterns. Bonds can offer some support for the local narrative of cultural and creative products, but there are also structural problems in the product-oriented migration of these products after leaving their place of origin. Neither have the scholars at the universities nor the companies in the market been fully considered. Therefore, the purpose is to work together.

1.3 Construction of an Analytical Framework for the Development Path under the Collaborative Logic

Based on the above analysis, the four links in the analytical framework of this paper are Resource Identification, Value Reconstruction, Product Transformation and Market Adaptation. The main idea of this framework is that the actual results of school-enterprise cooperation are not determined by the will to cooperate, but rather by whether the division of rights and responsibilities at each link is in line with the respective capabilities of the parties. The first link in resource identification is the cultural research ability of the university; most of the links for product transformation will be supported by the engineering and technical strength of enterprises, and for the links of value reconstruction and market adaptation, close cooperation and joint decision-making by both sides will be required. The framework will present the cooperative story of "universities provide intellectual resources and enterprises provide capital", but it will also explore how to achieve a good fit between the capacity boundaries of the collaborative subjects and the demands at each link in the chain.

With the change in Area from agriculture to animal husbandry, the resources of intangible cultural heritage in the Dahei River-Qiandao Lake Area have different cultural characteristics. The Design of the product development path should cover all links from cultural semantic analysis to product parametric design in this system. Universities should take the initiative to organise the stratification of cultural values and build interpretive systems for intangible cultural heritage resources at the front end, and enterprises will be responsible for material selection, structural design and process planning in the back end. The two sides will cooperate in the chain of value creation to establish a joint working group. The four links are not in a line; rather, they form a loop with feedback and iteration. The above structure will be taken as the basis for the Design of the development path^[2].

2. Development Potential and Cooperation Dilemmas of ICH Creative Products in the Dahei River-Qiandao Lake Area

2.1 Inventory of Regional ICH Resources and Layers of Cultural Value

The river basin of the Dahei River and Qiandao Lake has a long history of agriculture and animal husbandry, and its intangible cultural heritage includes folk art, traditional crafts, folk activities, etc. Traditional handicrafts such as paper-cutting, leather carving, fabric art and printmaking, as well as folk performances and lantern shows for festivals, have been passed down from generation to generation in the Dahei River (Hohhot) area. There are also ecological folk customs related to the use of water and seasonal migration. The structure of stocks is also related to ICH items in this area; many of the ICH practices are close to certain natural rhythms and patterns of water spaces and agricultural-pastoral production cycles, and their cultural codes are rooted in local life and livelihood.

The three levels of cultural values are as follows: At the top is a system of visual decorative symbols, such as auspicious patterns in paper-cutting, cloud patterns and animal totems in leather carving, and ethnic embroidery motifs in fabric art; in the middle layer are programmable craft techniques and ritual procedures, such as leather carving relief techniques, paper-cutting hollowing techniques, fabric art piecing and sewing, as well as programmed skills such as seasonal folk activity protocols based on water use; and at the bottom is related to the cognitive schema of the relationship between humans and nature, that is, the spatial perception and ecological ethics formed by the long-term interaction of Mongol-Yuan culture and Central Plains agricultural culture. Although the values at all levels are different, most of the current development work is still limited to the extraction and transfer of surface symbols, and the deep structure of cultural connotations has not been explored. The development potential of regional ICH resources is now at the stage of value creation, and many stages have been passed from the surface level to the deep level^[3].

2.2 Functional Positioning and Misalignment of Subjects in the Current Development Model

Given the present development conditions of ICH creative products in the Dahei River-Qiandao Lake Area, there is a general structural deficiency. University participation is only at the start of cultural research and conceptual design; enterprise production participation has not begun, and there is currently no effective "concept-to-product" conversion link between the two. Although some of the creative works in the Dahei River basin have been inspired by intangible cultural heritage, such as paper-cutting and leather carving, they are mainly used to obtain patterns and decorate surfaces; they do not use middle-layer craft procedures or deep-layer cognitive schemas of ICH. Performance items such as shoulder-borne folk performances and lantern shows introduced at ice and snow festivals and other cultural tourism activities are mainly in the form of on-site experiences and have not yet built an effective connection mechanism with the regular development of creative products. The participation of universities in such activities is relatively small, and the cooperation between schools and enterprises is mainly the handoff of work in sequence rather than true knowledge sharing.

The reason for the functional mismatch is not that either side lacks the ability, but rather that there is no necessary "translation" link in the chain of cooperation. The cultural proposals released by the universities have a good academic foundation, but they often do not consider the practicality of production processes and cost structures; in general, the product development undertaken by enterprises aims to meet the general aesthetic demands of the mass market and lacks an organised system for identifying and preserving cultural specificity. Therefore, there is no common semantic foundation for the academic interpretation of universities and the product definition of enterprises, and the work outputs of the two sides are difficult to be effectively absorbed in the professional context of the other. Therefore, school-enterprise cooperation has been reduced to an official division of labour and no longer involves joint creation.

2.3 Efficiency Loss in Knowledge Transfer During Collaborative Development and Its Reasons

The efficiency loss of knowledge transfer in school-enterprise cooperation and development occurs at the three links. At the level of language, there is no common semantic foundation for interpreting cultural values in the system of academic discourse and product specification descriptions in the system of industrial discourse; universities use cultural semantic analysis and meaning construction as their working languages, and enterprises use material parameters, structural design and process planning as their operating languages. At the level of concepts, the two sides have formed different views on the

main problem of "What is a good cultural work?". The goal of the university research cycle is to be comprehensive and deep in terms of time, but the rhythm of product iteration for enterprises needs to be flexible and fast; thus, the temporal logic of the two cannot be easily combined. At the time of evaluation, universities will consider both the students' grades and how well they spread the culture, and enterprises will be judged by their market share and investment returns. The evaluation system will affect people's willingness to cooperate and what they are willing to do.

The three kinds of losses are not independent but are in a cycle of mutual reinforcement. A misunderstanding at the linguistic interface will increase the coordination cost of the temporal interface, and uncoordinated temporal logic will make it even more difficult to bridge the standard differences in the evaluative interface. Finally, it has taken the form of "parallel isolation in the name of cooperation" - cooperation agreements have been signed, the division of labour is clear, but there is no cross-border knowledge integration and no genuine innovative results. The intangible cultural heritage resources in the Dahei River-Qiandao Lake Area are typical cases of such places, and their cultural codes have been shaped by the influence of the surrounding nature and society. Therefore, the subjects of the development should have a good understanding of the local culture. However, if the efficiency of knowledge transfer in the current development model continues to decline, it will directly affect how well we can spread this knowledge from universities to enterprises and thus create a structural bottleneck for the deep development of collaboration.

3. Collaborative Path Design for the Development of ICH Creative Products in the Dahei River-Qiandao Lake Area

3.1 Reconstruction of the Scope of Rights and Responsibilities for Collaborative Subjects Based on Capability Complementarity

The first need for the good operation of school-enterprise cooperation and development is the division of rights and responsibilities. Traditionally, cooperation has distributed rights and responsibilities according to the proportion of resource input, but it does not consider the different demands at various links of development for different types of capabilities. Given that "link dominance-link participation" has been used, the scope of rights and responsibilities will also be changed. At the link of cultural value interpretation, universities should build cognitive authority and lead the construction of an interpretation system for ICH resources by specifying which symbols in the ICH items of the Dahei River-Qiandao Lake area can be used, what techniques can be programmed, and what cognitive schemas can provide a foundation for meaning; at the same time, enterprises can provide feedback on the cultural receptivity of market consumers to connect academic interpretation with consumer cognition^[5].

In the link of product engineering transformation, enterprises have manufacturing authority and should take the lead in carrying out material selection, structural design and process planning; they need to translate the hollow-cut formal language of paper-cutting into product parameters suitable for mass production and adapt the cloud patterns and relief techniques of leather carving to meet the production standards of different carriers. Universities should also be involved in this process and ensure that the original cultural content is not changed during adaptation. The division of rights and responsibilities is due to the fact that the leading positions of the two parties change at different times in the course of development and are not fixed. At the bottom of the cooperation agreement, all parties will be informed of any change in power at that time. The first party of each link will make a decision, and the corresponding party will verify and notify. Standardise the Interface Documentation and Stage-Gate Review Process for the transfer of information between the two parties.

3.2 Product-oriented Translation of ICH Cultural Genes and Added-Value Mechanisms

After reforming the rights and duties of the people, we need to attach more attention to nurturing the inheritance of Chinese culture now. The "translation" here should not be confused with symbol appropriation or element grafting; rather, it is about extracting the cultural grammar of ICH resources and converting it into parametric rules for product design. All ICH items in the area of Dahei River-Qiandao Lake have their own independent visual grammar; for example, the hollow-cut forms and auspicious patterns of paper-cutting are based on a particular folk semantic logic, the cloud patterns and relief techniques of leather carving follow symmetrical decorative rules and directional symbolism, and the piecing, sewing and embroidery patterns of fabric art also have both function and beauty. The

first goal of the translation work is to turn the many rules into constraints and generative bases for product design, not to print patterns on general carriers^[6].

The three steps of this translation process need to be "rule extraction - rule encoding - rule application". Universities will be responsible for the development of the front-end, and cultural semantics and implicit knowledge, such as the proportion of patterns, principles of colour matching and structural load-bearing logic, will be converted into describable rule texts. At this time, the joint university-enterprise team will encode the rule text in the Design Parameters; that is to say, they will build a mapping relationship between cultural rules and product specifications. Given the above reasons, a prototype will be developed by the company and then verified in production. Paper-cutting is a typical case; the symmetry axes and repeating units of its hollow-cut works can be used as arrangement algorithms for fabric patterns, and the colour system of the cloud patterns in leather carving can be employed to set constraints on the colour scheme of products. This is not a decal-style application of translation; rather, the cultural genes can be incorporated into the formal language of the products to express their cultural value more profoundly, and at the same time, they can be produced in large quantities efficiently. Here is the origin of added value; the translated products are not carriers of cultural symbols but are in fact formal expressions of cultural grammar itself.

3.3 Construction of Intellectual Property Allocation and Benefit-sharing Mechanisms in Collaborative Development

The future development of the country will depend on how well the institution manages intellectual property and distributes the income obtained from it. The structure of the intellectual property for creative works in intangible cultural heritage is complex, and many parts need to be covered, such as the design contributions of university participants and technological improvements by enterprises, as well as the rights to traditional knowledge held by the indigenous communities in the place where the intangible cultural heritage originated. A Dual-Rights Confirmation Mechanism should be added to the school-enterprise cooperation model to distinguish between "core cultural elements" and "derivative product designs". Core cultural elements are collective and inherited in nature, so they should not be considered the exclusive property of any one party; instead, they will be managed in a public cultural resource pool, and all development activities based on these core elements must comply with the pre-agreed usage regulations. The Design of the derivative product is the result of joint creation by the universities and enterprises at the translation stage, and its rights and interests can be divided between the two parties according to the proportion of their contributions.

With joint consent, various degrees of revenue sharing will be set according to the degree of benefit sharing. For product lines that are directly based on the core elements of culture, a certain proportion of the revenue will be added to the rolling balance of the regional intangible cultural heritage protection fund, and thus the reproduction of cultural resources can continue to be financially supported. For iterative products based on the design of derivative products, the revenue shall be divided between the school and the enterprise according to a pre-arranged ratio, and this division ratio will be linked to the actual contributions of both sides in the translation process. A typical case of the productisation of fabric art in ICH is its piecing and sewing techniques, as well as traditional patterns that are considered important cultural symbols; size scaling, fabric substitution and functional expansion for modern life fall under the category of derivative product design. The two kinds of results are subject to different rights and revenue regulations. The purpose of the Design for this mechanism is to meet the demands of the people for the protection of intangible cultural heritage, provide a driving force for commercial development in the same institutional system, prevent a decline in the internal motivation for collaborative innovation due to an unclear division of rights, and create a stable institutional environment that encourages more entities to participate in future development.

Conclusion

Based on the theoretical logic of school-enterprise cooperation, this paper inventories the regional ICH resources and analyzes the level of cultural value to determine the structural reasons for functional misalignment and loss in the efficiency of knowledge transfer in the current development model. The three are: Capability-complementarity-based rights-responsibilities reconstruction; Parametric cultural-gene translation; and Layered benefit-sharing under dual rights confirmation. The first goal of cooperation is to establish an organisation that can spread cross-cultural values. The main problem is that we do not know how to integrate traditional knowledge with modern industrial logic, so we need to

build a complete docking mechanism at the levels of language, time and evaluation. A good cooperation model should be established to spread knowledge and culture from universities to enterprises effectively. Future research will investigate the explanatory power and application of this model in different periods and for various products, as well as study the participation and rights of indigenous peoples.

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