

Collaborative Innovation of Handicraft Intangible Cultural Heritage and Cultural Creative Design: Ningxia Yanchi Handmade Carpet

Lu Mengtian*

*College of Creative Arts, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia
Ningxia University, 750021 Yin Chuan, Ning Xia, China
Email: lmt.menty1021@gmail.com*

Wahiza Abdul Wahid*

*College of Creative Art, Universiti Teknologi MARA, Puncak Alam,
Selangor, Malaysia
Corresponding author
Email: wahiz433@uitm.edu.my*

Amer Shakir Zainol*

*College of Creative Art, Universiti Teknologi MARA, Puncak Alam,
Selangor, Malaysia
Email: amers781@uitm.edu.my*

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** These authors contributed equally to this study*

ABSTRACT

Ningxia Yanchi handmade carpets have a history of more than 300 years. They are one of the important handicrafts intangible cultural heritages (ICH) in China, similar to other handicrafts, facing the challenge of disconnecting from daily life. Cultural and creative development, as an important non-inheritable approach, has played a significant role in the modernisation and branding of various arts and crafts. The purpose of this study is to analyse the technological process and creation mode of Ningxia Yanchi handmade carpets on the basis of the theory of design affairology, and to propose a new optimal design framework. Based on the theory of design transactions, establish the "thing" logic in the creation of Yanchi handmade carpets and extract "elements". By transitioning from "thing" to "elements" in terms of graphical structure and colours, the individual pattern elements with modern aesthetics are organised. Based on the theoretical research foundation of Design Doctrine, cultural and creative design has the characteristics of clear thematic expression and coherent structure, which not only satisfies people's daily needs through traditional forms but also promotes the revival of traditional Chinese craftsmanship. It can serve as a new path for the innovation and development of traditional techniques. From a practical perspective, design affairology combines traditional skills of Intangible Cultural Heritage (ICH) with cultural creative design, creating new avenues for research and development of ICH-related designs. At the same time, the modernisation of ICH products through cultural and creative design is just one approach to heritage preservation and protection, expanding the scope of theoretical research.

Keywords: *Cultural, Design Affairology, Heritage, Handicraft, Intangible*

INTRODUCTION

The protective development of Yanchi handmade carpets, similar to other handicrafts, faces the challenge of disconnection from daily life. Cultural and creative design helps integrate handicrafts into modern life. Handicraft Intangible Cultural Heritage (ICH) represents a living artisan culture (Yang, 2020). In 2021, Ningxia handmade carpet weaving techniques were included in the national ICH representative project list under the category of traditional skills (Ningxia handmade carpets, 2023, para. 3, n.d. Ningxia Hui Autonomous Region Rural Revitalization Bureau). As of June 2023, 43 projects from China have been included in the UNESCO Intangible Cultural Heritage List (43 Items from China Included in UNESCO Intangible Cultural Heritage List_Tencent News, n.d.). Although many handicrafts have been included in the ICH list, it does not necessarily mean they are well protected. In contrast, some artisans practising these handicraft skills are often seen as disconnected from modern society and people's daily lives (Greru & Kalkreuter, 2017; Li et al., 2019). Some traditional craftsmen have relatively low comprehensive qualities, and the development of traditional handicraft products they create neither actively inherits traditional culture nor meets the development needs of modern society, which has had a certain impact on the overall development of traditional handicrafts (Li et al., 2019). As a result, many local craftsmen struggle to make a decent living and face issues such as low brand visibility, confusing product positioning, and unattractive derivative product development (Wan Nor Jazmina et al., 2023). The collaborative development of Intangible Cultural Heritage (ICH) and cultural creative design is based on the elements of ICH to develop and produce cultural creative designs that are mainstream in modern products such as daily necessities and stationery. The shapes used may include one or multiple elements of ICH but are not limited to traditional craft shapes and can be produced on a large scale using modern methods. Essentially, these products add value to cultural and commercial exchange. In terms of cultural creative design, people can not only adopt various modern design techniques and typical elements of ICH but also interact with inheritors of ICH or traditional craft masters. This form enhances the cultural experience of cultural creative design, adds additional value to cultural creative design, and better integrates ICH into modern life.

LITERATURE REVIEW

Sustainability of handicraft ICH

Cultural heritage can be divided into tangible cultural heritage and intangible cultural heritage according to the form of information. Intangible cultural heritage refers to non-physical but not limited to performances, cultural knowledge, professional ability, etc. Passed from generation to generation, these skills are now possessed by a few master crafts persons (Rozita et al., 2023). Intangible cultural heritage refers to the main forms of some traditional material civilization themed activities and forms that exist in designated intangible forms and are in direct contact with everyone's daily life at that time (Xiao, 2022).

Regarding the sustainable development of ICH, some scholars believe that the information age has created opportunities for ICH to create new art forms, and ICH should innovate and develop. For example, the creativity and expression of traditional and non-traditional arts and crafts has gained unprecedented space, and a large number of new art forms have been created (Hammou et al., 2020). As an intangible cultural heritage, arts and crafts should be inherited actively and innovatively, the craft heritage has the potential to generate income while guaranteeing the sustainability of this cultural heritage (Wan Nor Jazmina et al., 2023). From the perspective of the development gap of ICH, some scholars believe that many ICH products have two sustainability problems. One is the shrinking of the core practitioner group, and the other is the extremely low added value of the product. There are some ICH products that have undergone little adaptive innovation to meet the functional or aesthetic needs of modern society (Curkovic, 2021).

From 2016 to 2022, many scholars mentioned in their articles that ICH combines the development of cultural and creative products. For example, Fu (2016) believes that China's unique and colourful intangible cultural heritage has laid a solid material foundation for the cultural and creative industries, and these are inexhaustible sources of creativity. Deng et al. (2020) also expressed his opinion in the article that combining ICH with cultural and creative products can not only increase the added value of products, but also broaden the cultural value of ICH. Summarising the views of these scholars, this researcher believes that in the coordinated development of intangible cultural heritage and cultural and creative design, it is necessary to maintain its own characteristics. Cultural creation cannot be done for the sake of cultural creation, nor can it be done for the sake of intangible cultural heritage. Only when they complement each other can their characteristics be brought into full play. For example, the successful sales of Cultural innovation in the Palace Museum, although not replicable, also shows the great potential of ICH + cultural and creative works. Generally speaking, the current ICH cultural and creative design has not formed an independent and complete system for industrialization.

As far as Ningxia is concerned, most ICHs lack professional cultural and creative R&D centres and creative teams and focus on entrusted design and market procurement. The most prominent problem is that the combination of product creativity and intangible cultural heritage is not ideal. In his article, Li (2019) analysed the problems encountered in the development of ICH in Ningxia. He believed that the earliest production of most traditional crafts originated from the practicality of production and life, such as sachets, pillowcases, rolling felt, sheepskin rafts, etc. These things used to be essential daily necessities in people's lives, but now they can no longer meet the needs of modern life (Li, 2019). In addition, the researchers of this article found some problems from the design point of view. One is that some cultural creations are too direct in using intangible cultural heritage elements, simply piled up indiscriminately, resulting in a complicated appearance but a monotonous cultural core. The second is that the varieties of cultural and creative products are similar, lack individuality, and have not formed an IP image that is out of the circle. The third is that the packaging of cultural and creative products is not exquisite, and there are problems such as lack of brand awareness.

For the coordinated development of ICH and cultural innovation, many scholars also believe that designers should be involved. Based on scientific design methods, the sustainable development of ICH products can lead to a virtuous circle. For traditional craftsmen, they have in-depth research on intangible cultural heritage, but lack experience in cultural and creative development. Designers have certain design experience, but most of them lack in-depth research on intangible cultural heritage. The two cooperative innovations can complement each other, and can realise the development model of joint learning and cooperative development between inheritors and designers (Yang et al., 2019; Wang, 2021). Under the guidance of user innovation theory, Sun and Liu (2022) studied bamboo weaving design technology and developed a series of auxiliary tools for automatic drawing. This technology helps designers quickly design and express weaving structures with complete details, which helps to create a sustainable technological research ecological environment, and also avoids the difficulty of attracting commercial investment in the initial stage of such niche needs (Sun & Liu, 2022, p. 5). Practice has proved that in many intangible cultural heritage industries, the design concept of designers serves ICH products, which can improve design efficiency and make products easier to be accepted, which is also a consensus gradually formed in the design community.

Design Affairology

In China, the inheritance spirit of many intangible cultural heritage traditional handicrafts follows the product of the ancient creation aesthetic thought. In the ancient creation activities of our country, the Confucian school Xunzi put forward the idea of "Heavy personal servitude", It refers to people themselves as the main body, and objects are used by people. Taoism advocated "Unity of Heaven and Man", It is believed that man, nature and the universe are a whole, man is a part of it, and man's behaviour and consciousness should be in harmony with this whole. The Song Dynasty Neo Confucianism advocates "study the nature of things", It means to view things, we must explore the essence (root) of

things in order to obtain the truth. The ancient people's creation design behaviour is also to create "things" for "element", which must conform to the laws of nature, rationally use the properties of materials and implement craftsmanship (Wu, 2022). The ancients emphasised that people should give full play to their leading ideas, and talents are the fundamental factor, which is the essence of design "people-oriented". This idea is also the same as the core of Design Affairology, which is "seek truth from facts".

In the 1990s, the methodology of Affairology took shape. In China, in 1985, Professor Liu Guanzhong of Tsinghua University first proposed Design Affairology. After 2008, design affairs has been widely used as a research and design method to guide specific design practices (Wang, 2019). Design affairology is widely used in design activities such as product design, graphic design, space design, automobile design, packaging design, service design and service system model design. Liu (2006) believes that design should be the design of "Elements" (事), rather than the design of "Things" (物). "Element" is not the same thing as "Tings". "Element" refers to people's understanding, change and utilisation of things, and "Things" refers to what is commonly referred to as material, real objects, etc., just like food is a thing, eating is a thing (Liu, 2019). To sum up the point of view of design affairology, if we only design "things", the design will only stay on the surface, which is an illusory vanity, not the essence of design.

From the perspective of design affairs methodology, for ICH cultural and creative design to be integrated into modern life, it must meet the aesthetic needs of the modern public and the value needs of current cultural and creative products. The system can be constructed from the three elements of "things", "element" and "people", to carry out modern transformation. That is: intangible cultural heritage elements (element)—expression carrier (things)—art and utility (things)—contemporary life (people). Put the result of the design into the specific "thing", and check whether it is reasonable and fair in the process of doing things, and see whether the design of ICH can better integrate into modern life. In his research, Wang (2019) introduced design affairology into the design research of Xiaoyu Bamboo Utensils, systematically analysed the internal and external influencing factors of Xiaoyu Bamboo Utensils, and explored the contemporary applicability of Xiaoyu Bamboo Utensils (Wang, 2019). Using design affairs, Wu (2022) takes the design of lacquer art products as an example, emphasising that designers should transform from design "element" to design "thing", then meet the needs of people, so that "old technology and old materials" can serve modern life (Wu, 2022).

"Element" refers to the intangible cultural heritage element itself; "things" refers to a specific condition (such as time limitation, space limitation, behaviour limitation, etc.) people and elements or people and people directly produce scenarios, interact behaviours, and exchange information. Because of this, people have experiences and feelings, and the element has also changed, resulting in the so-called "meaning" of things. For example, Liu (2006) said, "What we design and create is not actually "seat" (element-noun), but "sitting" (behavioural things-verb)." The traditional view is that what we design and create is a tangible "element", However, what is more important is the mutual relationship between people and elements, that is, "things" (Liu, 2006).

Ningxia Yanchi handmade carpet

The notice of the People's Government of Ningxia Hui Autonomous Region on publishing the first batch of representative list of ICH at the autonomous region level (Ningxia Government, Document No. 91, 2007) released a total of 33 district-level ICH lists. Ningxia Yanchi handmade carpet production has already been listed in the traditional textile handicrafts. The source of Chinese carpets is located in Xinjiang, and gradually spread to several provinces in the Northwest through the Silk Road and the Hexi Corridor, especially Gansu, Ningxia, Inner Mongolia and other places. Ningxia carpers have been developed for more than 300 years, and it is widely regarded as one of the best handmade carpets in China at that time. Ningxia is irrigated by the Yellow River and flows out of the Ningxia Plain. It has become one of the prosperous places on the "Silk Road " and has a variety of cultural histories. Historically, the Dangxiang ethnic group that once established a dynasty in the Ningxia Plain, invented

writing, and lived and multiplied, from prosperity to extinction, gradually transformed the Ningxia Plain from a pure nomadic economy to a semi-agricultural and semi-pastoral economic type, and the nomadic culture has thus evolved. Therefore, the national cultural heritage with rich regional characteristics has been left behind, providing an inexhaustible source of ideas, and constantly inspiring creators to explore the footprints of nomadic culture (Li, 2018). The traditional handicrafts thus accumulated are rich in imagination, diverse in form, with distinct regional characteristics and unique ethnic cultural elements, covering customs and customs of multiple ethnic groups and multiculturalism.

Ningxia is only one mountain away from the Alxa Plateau in the northwest of the Helan Mountain. During the Ming and Qing Dynasties, it served as an important link from the northwest to the Central Plains and assumed the task of a transportation hub. This provided certain convenient conditions for the formation of a unique regional style for Ningxia carpets. Ningxia carpets are one of the main handicrafts in this area, mainly produced in Yinchuan, Yanchi, Zhongwei, Wuzhong, Xiji, and other places. They are woven from wool produced in Ningxia and Alxa. A large number of Ningxia carpets were traded in Alxa and found wide usage there. Due to their excellent quality, fine workmanship, and unique dyeing technique that make the colours brighter and more vibrant, Ningxia carpets were not only designated as temple blankets by the Qing government but also regularly presented to the imperial court as tributes and gift blankets. History has established two major categories of Ningxia carpets: temple blankets and tribute blankets, including those used for royal gifts (Ningxia Antique Carpet, n.d.). A large number of Ningxia carpets can be seen among the precious antique carpets collected by the Palace Museum in Beijing.

Historically, the handmade craftsmanship of Ningxia carpets has a long history of development and incorporates rich cultural connotations. In the long history, Ningxia carpets can be woven into almost any form: large palace carpets, long and narrow Kang blankets, pillar blankets, saddle blankets, cushions and back blankets, etc. (The handmade carpet of Yanchi is a living artefact that tells the story of history, 2018).

Raw material selection

Ningxia carpets mostly use lustrous, soft, bright and elastic wool. These sheep are mostly Tan sheep that grow in Yanchi, Ningxia, and purebred sheep in the Alxa Grassland in the northwest of Helan Mountain. Wool is most frequently used, although wool, silk and jute are common materials, as are grass and man-made materials such as nylon and polypropylene. Therefore, the raw materials of Ningxia carpets are characterised by long pile, soft feel and rich pile content.

Process flow

The craftsmanship of handmade carpets in Yanchi, Ningxia is a time-consuming and labour-intensive work. It has to go through more than ten steps such as drawing, wool picking, wool washing, spinning, dyeing, rewinding, weaving, smoothing, cleaning, trimming, old-fashioned, and carpet wiping. It takes at least three months to half a year to complete a qualified handmade carpet (Figure 1).



Figure 1. Carpet made by Ningxia folk craftsmen in the late Qing Dynasty
(Source: *The Carpet Knowledge of Ningxia Carpets: "Official Kilns" within Carpets, 2018*)

Ningxia carpets use a detailed knotting method, and hand-knotted carpets are tied with "∞" buckles. The weaving density is 11-15 knots per 5 cm in the longitudinal direction, and the thickness is 5-8 mm. This kind of weaving density and thickness is strong and stable, and it will not rot after many years of use (Zhang, 2021).

Pattern modelling

In terms of patterns and shapes, compared with carpets from other regions, Ningxia carpets have extensively absorbed the traditional carpet weaving skills of various ethnic groups and the elements of Northwest folk culture and art. Ningxia carpets can be found in the patterns of flowers and birds, Baoxiang patterns, and porcelain patterns in the Central Plains brocade. There are also auspicious patterns such as wealth and longevity, promotion and wealth, many children, and many blessings, which are based on the patterns of brocade, embroidery, and porcelain of the Han nationality. As well as the decorative patterns on the silver and bronze wares of the Mongolian and Tibetan nationalities, as well as the auspicious patterns on Jingdezhen porcelain. At the same time, Ningxia carpets are influenced by the patterns of Xinjiang carpets, which incorporate the geometric brocade patterns of Uyghur carpets, forming the characteristics of diversified patterns of Ningxia carpets (Li, 2015).

The composition of Ningxia blankets is mainly based on "metrical style". "Metric style" is a rule summed up by our ancestors based on the understanding of the "square" and "eight" of celestial bodies. The composition of "Metric Style" pays attention to the coordinated layout of surround, symmetry and centre, and is mainly composed of "kui", "corner" and "side". It can bring a sense of stability and tranquillity to the decoration environment, and it is one of the most representative patterns of ancient Chinese carpets (Figure 2).



Figure 2. Ningxia carpet pattern
(Source: *The Carpet Knowledge of Ningxia Carpets: "Official Kilns" within Carpets, 2018*)

Colour

The dyeing technique of Ningxia carpets is extremely unique. Due to the dry climate and sparse vegetation in Ningxia, craftsmen often extract natural pigments from plants such as bitter beans, oak camels, indigo, and lacquer trees. The natural pigments extracted from these plants gradually penetrate more and more with prolonged use, ensuring that the carpets maintain a long-term natural, uniform, and bright coloration. Blue, yellow, camel, and wood red are commonly used colours in Ningxia carpets. For example, in blue patterns, yellow, red, and moon white are complementary colours.

Since Ningxia carpets were used by the royal family in the Ming and Qing Dynasties, they must follow the strict feudal hierarchy in the Ming and Qing Dynasties to distinguish colours. Yellow is reserved for the royal court, and red is the colour used by princes and nobles and the upper class. In addition, Ningxia carpets are widely used in Alxa temples, and the tops of Tibetan Buddhist buildings, temple decorations, and temple carpets are all yellow. Therefore, traditional Ningxia carpets are also widely used in yellow (Zhang, 2021).

METHODOLOGY

In the first and second steps, researchers built a design affairology framework (Diagram 1) based on the theoretical foundation of design affairology. This framework (Diagram 2) was developed specifically for the cultural creative design of traditional handicrafts of Intangible Cultural Heritage (ICH), with the aim of conducting foundational research in design affairology for the handmade carpets of Yanchi, Ningxia. The third step involves the concrete design expression based on this framework.

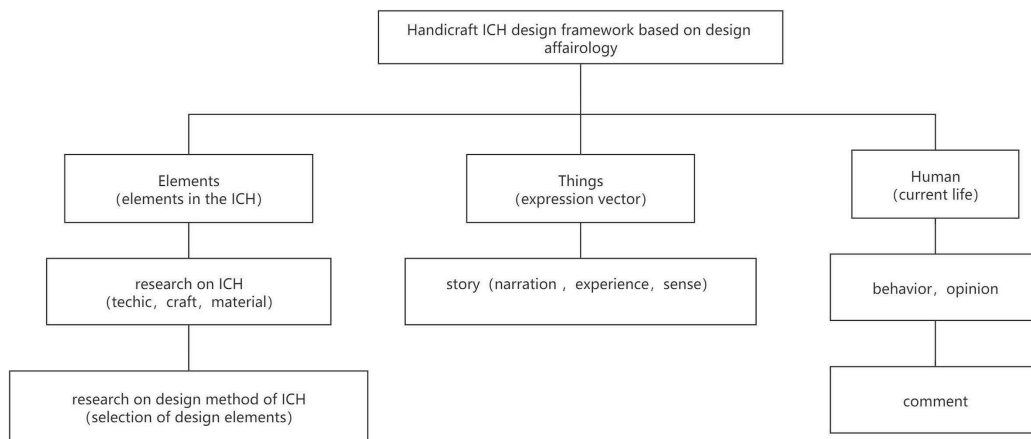


Figure 3. Diagram 1 Handicraft ICH design framework

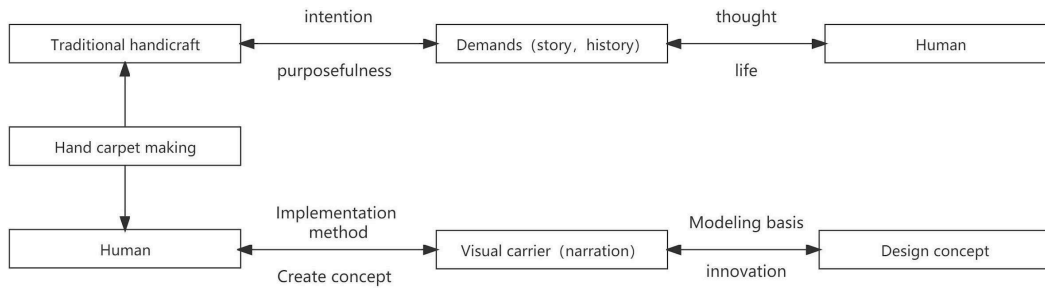


Figure 4. Diagram 2 Step diagram from element to “thing”

In the first step, as mentioned in Diagram 1, the research begins by studying the elements of Intangible Cultural Heritage (ICH) itself, transitioning from design of "thing" to design "elements". This is done by considering the limiting factors such as time, space, and behaviour, as well as the behaviours, concepts, and evaluations of individuals involved in the affairs. By doing so, the researchers establish the design objectives. Based on this, the research team further refined the research elements and structure of the Yanchi handmade carpets in Ningxia, from the perspective of transitioning from "thing" to "elements". Field research is conducted on historical, cultural, customs, and habitual aspects. The design objective of this study is to guide the creative process through the research narrative, incorporating historical and cultural elements, and modernising the conversion of ICH elements. Ultimately, the aim is to create cultural and creative products that skillfully select ICH elements in line with popular aesthetics and modern lifestyle needs.

In the second step, as shown in Figure 3, the researchers choose the medium of weaving as the expression of "element", deducing materials, techniques, forms, colours, and more for cultural creative design. This process focuses more on the "thing" rather than just the "element", transitioning from the physical aspect to the meaningful aspect. During the production of traditional handmade carpets, artisans choose to weave and twist threads by hand. During this mechanically repetitive and lengthy process, people would sing songs while working, creating a unique labour custom with a distinctive charm. Compared to the exquisite craftsmanship of the Yanchi handmade carpets, the narrative aspect of weaving can better express a cultural way of life. Within specific time, environment, and information, the emotional transmission of "narration" can be experienced more deeply.

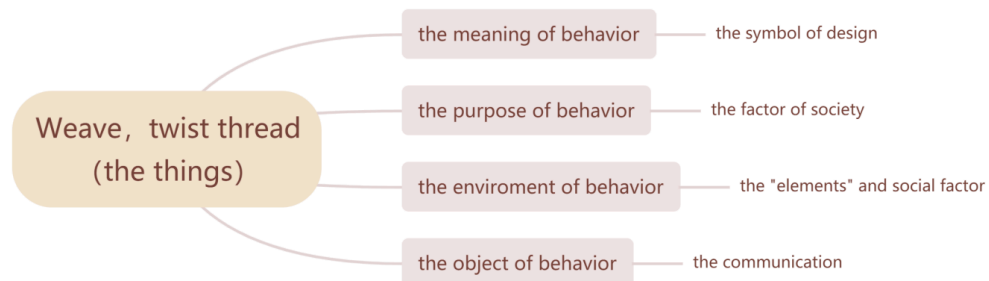


Figure 5. Diagram 4 Extraction of elements

In the third step, specific design expressions are carried out, with a focus on explaining the expression of patterns and colours, utilising one of the works created by the research team. In the upper

part of Diagram 3, the researchers extract the framework of the weaving "thing" in terms of patterns. They select the basic design elements from traditional handmade carpets, which include flower patterns, longevity patterns, geometric patterns, and other auspicious symbol elements that are concise, visually appealing, and in line with modern aesthetics. These elements are ultimately incorporated into the physical form of the visual medium, with their own compositional orientation. In Diagram 3, the composition continues the traditional carpet grid pattern, based on the nine-square grid composition, and incorporates circles and straight lines as the framework. During the design process, it is important to preserve the authentic cultural significance while eliminating any other distracting meanings, ensuring a pure and distinct modern sense.

In terms of colour expression, as shown in Figure 6, the researchers incorporate cultural creativity while respecting the original "thing". Traditional Yanchi handmade carpets extract dyes from natural plants and minerals, utilising ancient dyeing techniques. This allows the materials to naturally absorb pigments at room temperature for a long period, providing colour protection. Therefore, drawing inspiration from the basic colours of blue, red, yellow, and others in the original Yanchi handmade carpets, which represent history, culture, nature, and simplicity, these traditional colours correspond to the modern perception of novelty, vibrancy, safety, and stimulation. This forms the basis for the colour scheme.

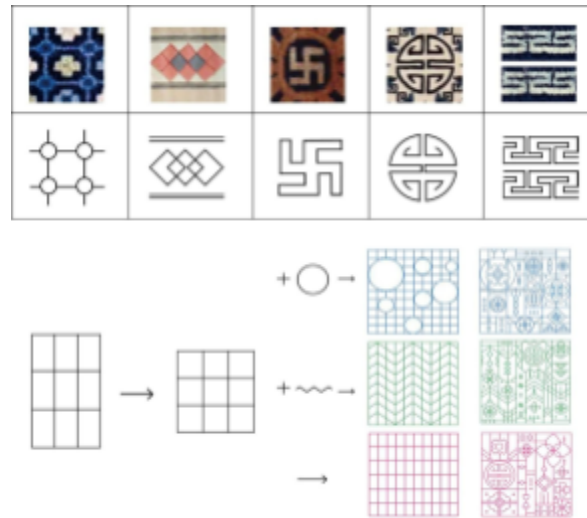


Figure 6. Zhang Ying's Yanchi handmade carpet design work
(Source: Zhang, 2021)



Figure 7. Zhang Ying's Yanchi handmade carpet design work
 (Source: Zhang, 2021)

The core application of the methodology of Design Doctrine is to incorporate the design elements of intangible cultural heritage traditional crafts "thing" into the experience of "element". Therefore, based on this, establishing an evaluation system from the perspective of Design Doctrine can evaluate various aspects of decision-making and creative product design. The goal is to ensure that the narrative process remains centred around "people" and that the design of the product is "appropriate and reasonable".

FINDINGS

The study of Design Affairiology explores the advantages of cultural and creative design

Based on the theoretical foundation of Design Doctrine, cultural and creative designs have the characteristics of clear thematic expression and coherent structure, making them a new path for the innovation and development of traditional crafts. Traditional craftsmanship involves complex and labour-intensive processes, particularly in tasks such as wool washing and dyeing, which are difficult and time-consuming. With the introduction of modern mechanised production in handmade carpet production, traditional processing methods and tools are gradually being replaced, making it challenging to sustain the original characteristics of handmade carpet craftsmanship. The average age of traditional craftsmanship inheritors is relatively high, and many young people are no longer willing to learn these skills. Cultural and creative design offers higher efficiency and wider dissemination channels, making it easier to integrate into various aspects of modern life. With the research methods based on Design Doctrine, both individual innovations and thematic series research and innovation can be carried out. On the other hand, it also provides a solution for the digital preservation and inheritance of Ningxia carpets, helping to digitally present the cultural patterns of Ningxia carpets.

Advantages of Design affairs involved in ICH handicrafts

The innovative application of Design affairology in traditional handicraft products can be said to provide a new way of expression for ICH, and it can also be said to be an opportunity for ICH handicrafts to continue the tradition in a different form. Design rationale guides designers to immerse themselves in specific "things" to dig out the starting point of design. The final new design of this article not only retains the pattern and rhythm elements of traditional Ningxia carpets, but also retains the designer's personal creative perspective, incorporating his understanding of traditional culture and style characteristics. The results can be applied directly or can be used as a source of material for traditional craftsmen. Therefore, when traditional craftsmen cooperate with designers, they can also change their thinking from designing "elements" to designing "things" and can better continue traditional skills in modern life in a more connotative way. Make Chinese traditional handicrafts meet people's living needs in traditional forms, and at the same time promote the revival of traditional handicrafts.

ICH Handicraft Sustainability Innovation

Cultural and creative design can activate the innovative driving force of handicraft ICH. Through cultural and creative design, handicraft ICH can better integrate into modern life and intersect with people's daily lives. Cultural and creative design also endows cultural connotation and commercial added value through intangible cultural heritage and traditional handicrafts. Handicraft ICH and cultural and creative design develop together and complement each other. With the continuous development and innovation of cultural and creative design in recent years, if ICH cultural and creative design wants to better cope with the modern social lifestyle, it must modernise the ICH elements and integrate typical elements into modern daily life through products. Successful transformation of modernity requires effective use of regional characteristics and regional economic resources, active inheritance and innovation in parallel, and exploration of internationalisation paths based on nationalisation. Only when people are willing to experience, use and disseminate widely can they better inherit the excellent traditional culture of the Chinese nation.

The sustainability Ningxia carpets not only has general cultural heritage products, but also has individual characteristics. Through the work presented in this paper, we aim to address the bottleneck of production technology and improve ICH handicraft production cycle is slow, traditional forms are difficult to adapt to modern society. This model will surely provide more convenience for the creative design of traditional crafts and provide strong technical support for the innovative creation of crafts, thus expanding the sustainable development of ICH crafts.

CONCLUSION

Based on the research on Ningxia carpets, the proposed design framework is of great significance for the innovative design of ICH craftsmen and the cultural and creative design of designers. In this article, from a practical point of view, design affairs combine ICH traditional skills with cultural and creative design, creating a new way for ICH-related design developers to research. Realising the modernization of ICH products through cultural and creative design is just one of the ways of intangible heritage + protection. In order to achieve effective cooperative development, it is also necessary to have an international vision for all-round development, effectively utilise regional characteristics and regional economic resources, actively carry out inheritance and innovation in parallel, and explore internationalisation paths based on nationalisation. This article also has certain limitations, and the influencing factors of digitalization and branding are also crucial to the development of Ningxia Carpet and other ICH. Looking forward to the research of scholars in related majors to supplement the deficiencies in this area, so as to promote the sustainable development of ICH.

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REFERENCES

- 43 Items from China Included in UNESCO Intangible Cultural Heritage List, Tencent News. (n.d.).<https://new.qq.com/rain/a/20230609A050HF00?no-redirect=1>
- Carpet Knowledge: *Ningxia Carpets, "Official Kilns" within Carpets*. (2018, February 24).
https://ishare.ifeng.com/c/s/v002uYCsFclwdN4bqUAN-_06piWB--vs4euc200byWxZq-_xG4__
- Deng, M., Chen, X., Luo, F., & Li, G. (2020). *A review of the status quo and development trend of cultural and creative derivatives of intangible cultural heritage*. *Quality and Market*, 4, 60–62.
- Curkovic, M.D. (2021). *The Role of the Traditional Crafts as Intangible Heritage on the Global Tourist Market*. *SHS Web of Conferences*, 92, 06005. <https://doi.org/10.1051/shsconf/20219206005>
- Greru, C., & Kalkreuter, B. (2017). *Design and the Evolving Tradition of Sanganer Hand Block Printing: Formation and Negotiation of Artisanal Knowledge and Identities Against the Backdrop of Intangible Cultural Heritage*. *The Journal of Modern Craft*, 10(2), 137–156.
<https://doi.org/10.1080/17496772.2017.1351102>
- Liu, G.Z. (2019). Liu Guanzhong: Designer coordinators should take into account the interests of all parties. *Design 2*:67-68
- Liu, G.Z. (2006) *Science of Human Affairs*. Changsha: Central South University Press, 2006.
- Hammou, I., Aboudou, S., & Makloul, Y. (2020). Social Media and Intangible Cultural Heritage for Digital Marketing Communication: Case of Marrakech Crafts. *Molecular Microbiology*, 121-127.
- Impression on Ningxia. *As a Living Cultural Relic, Yanchi Handmade Carpet Tell a Historical Legend*. December 2, 2018. https://www.sohu.com/a/280950989_166969.
- Li, Z. (2018). Preliminary Exploration of Innovative Design Practice of Ningxia Arts and Crafts. *Ethnic Art Forest*, 3, 92–96.
- Li, W.T., Ho, M.-C., & Yang, C. (2019). A Design Thinking-Based Study of the Prospect of the Sustainable Development of Traditional Handicrafts. *Sustainability*, 11(18), 4823.
<https://doi.org/10.3390/su11184823>
- Ningxia Hui Autonomous Region Rural Revitalization Bureau. (n.d.). *Ningxia Handmade Carpet Weaving Skills Training Class Commences, Aiding Intangible Cultural Heritage Inheritance and Industrial Development*. Ningxia Hui Autonomous Region Rural Revitalization Bureau.
http://xczsj.nx.gov.cn/xwzx/mtbd/202311/t20231130_4367974.html
- Rozita Shamsuddin., Rahaidah Muhamad., Wan Norliza Wan Bakar & Raja Norazila Raja Mohd Yusof. (2023). The Inspiration of Geometrical Concepts in Mengkuang Weaving Motifs. *International Journal of Art and Design* 7(1)1-15.

- Sun, Y.; & Liu, X (2022). How Design Technology Improves the Sustainability of Intangible Cultural Heritage Products: A Practical Study on Bamboo Basketry Craft. *Sustainability*, 14, 12058. <https://doi.org/10.3390/su141912058>
- Fu, S. (2016). *Research on intellectual property issues in intangible cultural heritage creative industry*. Henan Science and Technology
- The handmade carpet of Yanchi is a living artifact that tells the story of history. (2018, December 10). Sohu.com. https://www.sohu.com/a/280950989_166969
- UNESCO. *List of ICH and Register*. <https://ich.unesco.org/en/state/china-CN>
- Wang, B. (2021). *A review of research on the development of my country's intangible cultural heritage, cultural and creative products*. *Humanities World*, 6, 21–26.
- Wang, M.J. (2019). Research on the Contemporary Applicability of Xiaoyu Bamboo Ware Based on Affair Science [Master]. Guangdong University of Technology.
- Wan Nor Jazmina Wan Ariffin , Syed Shahfiq., Fazil Ahmad., Asmawi Ibrahim., & Farah Syazrah Ghazalli. (2023). *Handicraft Innovations: A Strategic Approach to Preserving Intangible Cultural Heritage of Malaysia*. *Journal of the International Society for the Study of Vernacular Settlements*, 10 (7).
- Wu, H.Y. (2022). *Application of Design Affair Science in Handicraft Product Design Taking Lacquer Art Product Design as an Example*. *Art Literature*, 11, 147–149.
- Xiao, L. (2022). *Intangible Cultural Heritage Reproduction and Revitalization: Value Feedback, Practice, and Exploration Based on the IPA Model*. *Computational Intelligence and Neuroscience*, 2022. Scopus. <https://doi.org/10.1155/2022/8411999>
- Li, X.C. (2015). Analysis of the Artistic Characteristics of Ningxia Carpet Pattern. *Great Stage*, 05: 226-7.
- Li, Y. (2019). *On the revitalization of traditional craftsmanship of intangible cultural heritage protection in Ningxia*. *Art Appreciation*, 23, 25-26.
- Li, Y. (2023). The Influence of The Retro Trend on The Pattern and Symbol of Ceramic Decoration in The Qianlong Period of The Qing Dynasty. *International Journal of Art and Design* 7(1) 75-85. <https://doi.org/10.5281/zenodo.7867016>.
- Yang, J.W., Min, P., & Yi, W. (2019) *Research on the design of cultural and creative products under the cultural symbols of Shaanxi shadow puppetry*. *Packaging Engineering*, 40(04):151.
- Yang, Z.J. (2020). *The living inheritance of traditional handicrafts and craftsman spirit—on the documentary value of the documentary “The Great Craftsman 2019.”* *Contemporary*. 2020; 01:86–9. <https://doi.org/10.16531/j.cnki.1000-8977.2020.01.024>. (in Chinese).
- Zhang, Y. (2021). *Research and innovative application of contemporary Ningxia woven carpet pattern finishing* (Unpublished master dissertation). Ningxia University. 2021