

Strategies for Revitalizing Traditional Patterns in Inner Mongolia's Graphic Design within the Context of Digital Communication

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Abstract: Digital platforms, mobile terminals, and intelligent generation technology have changed the presentation of traditional culture and also brought regional patterns into screen communication and daily consumption scenes, such as utensil decoration. The traditional patterns of Inner Mongolia are formed in the production and life, belief customs, and aesthetic experience of grassland society, with distinct cultural orientation and formal characteristics. However, there are still some problems in the current design and application, such as insufficient extraction of meaning, lack of rules for visual transformation, static display of media adaptation, and lack of a continuous mechanism for application development. This paper explains the value of graphic design activation from four aspects of culture, aesthetics, media, and industry, analyzes the deep reasons that restrict the quality of activation, and puts forward some measures, such as establishing pattern knowledge archives, forming hierarchical design specifications, developing responsive visual assets, and constructing scene transformation links. It aims to integrate cultural interpretation, design methods, and communication applications into the same process, and provide executable ideas for the standardized use, modern transformation, and long-term dissemination of traditional patterns in Inner Mongolia.

Keywords: Digital communication; Inner Mongolia traditional patterns; Graphic design; Cultural activation; Visual transformation

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1. Introduction

Inner Mongolia traditional patterns exist in clothing embroidery, blankets, harnesses, architectural paintings, and living utensils. Their shapes not only bear a decorative function, but also record the way the grassland society understands nature, organizes life, and expresses wishes^[1]. Digital communication has expanded the visible range of traditional patterns. Short videos, digital exhibitions, social media, and cultural and creative platforms have increased their frequency of occurrence, but “being seen” is not equivalent to effective

inheritance. Previous studies have focused on the symbolic meaning of Mongolian patterns, the innovation of traditional patterns, and the standards and subjects of digital communication of intangible cultural heritage [2–3]. However, there is a lack of systematic discussion on the relationship between cultural interpretation, visual transformation, media adaptation, and application mechanisms [4]. Therefore, it is necessary to study how the traditional patterns of Inner Mongolia maintain the cultural boundary in digital communication from the perspective of the graphic design process, and form a reusable, extensible, and evaluable activation method [5].

2. Multiple values of the activation of traditional pattern graphic design in Inner Mongolia in the context of digital communication

2.1. The cultural value of inheriting regional culture

Inner Mongolia traditional patterns are the visual carrier of regional cultural memory. The name, composition, location, and combination of patterns are often connected with nomadic production, natural cognition, etiquette and custom system, and daily life [6]. Patterns such as panchang, curly grass, cloud patterns, and horn patterns do not appear arbitrarily on different utensils, and their forms and ways of use together constitute cultural significance. The cultural value of graphic design activation is not to copy old patterns to new media, but to preserve the relationship between patterns and historical context and group memory [7]. Through standardized collection, interpretation, and redesign, the pattern information scattered in objects, images, and folk narratives can be transformed into verifiable cultural materials, and the misuse and mixed use in design communication can also be reduced.

2.2. Enrich the aesthetic value of visual language

Inner Mongolia traditional patterns have strong form organization ability. Its aesthetic value is not only manifested in bright colors or complicated shapes, but also in the stable rules formed between graphic units, bone structures, and spatial relationships. The research on the innovation of traditional patterns shows that modern transformation should re-understand patterns from the aspects of perceptual experience, cultural meaning, and design structure, rather than just surface decoration [8]. The extraction and reorganization of these rules can expand the visual language of modern graphic design, so that the works can obtain the simplicity and hierarchy suitable for contemporary reading while maintaining regional recognition. At the same time, regular analysis helps designers to explain the basis of creation and avoid using abstract “national style” to replace the study of specific forms.

2.3. The media value of improving communication efficiency

Digital media makes the pattern spread from one-way display to continuous interaction. Traditional patterns can be split into icons, animations, stickers, interface components, and generatable templates, which can be called, combined, and re-transmitted on different platforms. This shows that the scope of communication is not the only goal; the design should also consider the screen size, viewing time, information level, and user participation. The patterns designed by mediatization can adapt to a variety of terminals with different complexity, improve the recognition efficiency under the premise of maintaining the core features, and form a more stable digital communication image [9]. When the pattern forms a callable digital asset, the same cultural content can remain basically the same at different communication nodes, reducing the meaning loss caused by platform conversion.

2.4. Industrial value of promoting cultural and creative development

After entering the brand, cultural tourism, public culture, and digital products, traditional patterns can form design resources with local characteristics. At present, cultural consumption pays more attention to source description, experience process, and individual expression. If patterns can form a clear source of knowledge and authorization rules, they can be used for packaging, guidance, digital display, interactive content, and daily necessities. Therefore, industrial development should be based on cultural information, reduce the cost of repeated development with design specifications, and protect the rights and interests of cultural subjects and designers through reasonable authorization, so as to activate and form sustainable production relations^[10]. The resulting value chain is not simple cultural consumption, but a value chain in which data protection, design services, brand building, and local employment support each other.

3. The realistic problem of the activation of traditional pattern graphic design in Inner Mongolia

3.1. Lack of cultural connotation mining

The deep reason for the lack of cultural connotation mining is the information fracture between pattern research and design production. The data of museum collections, local chronicles, folk objects, and inheritors are scattered in different systems, and the names, ages, regions, and uses often lack unified labeling. When designers obtain materials, they rely more on network pictures or second-hand albums, and it is difficult to judge the source of graphics and their applicable context. When cultural information cannot enter the design process, patterns are easily compressed into broad impressions such as “grassland,” “nation,” and “auspicious.” It is worth noting that meaning is not a fixed description attached to a single figure; it is also related to the object where the pattern is located, the user identity, the combination position, and the specific occasion. Extracting from these relationships will make the design seem to retain the traditional form and, in fact, change the cultural orientation of the pattern. If there is no data verification and expert participation in the design project, this information gap will be continuously enlarged in multiple reprints and redesigns, and finally the false interpretation will obtain surface credibility.

3.2. Single way of visual transformation

The single way of visual transformation is not simply a lack of creativity, but a lack of explainable and reusable transformation rules. Many works make an intuitive choice between replication and deformation. The design effect depends on personal experience, and it is difficult to judge which structures must be retained and which elements can be adjusted. The result is either the original transplant, where the pattern and the layout, text, and product information are separated from each other; or it is oversimplified, and geographical identification is replaced by ordinary geometric figures. Traditional patterns usually contain multiple levels such as primitives, bones, boundaries, repetition, and color relations. If these levels are not distinguished, the so-called innovation can only stay in color change, edge tracing, mirroring, and collage. Because the process cannot be recorded, it is difficult to precipitate excellent solutions into team methods, and subsequent projects can only be re-explored to further increase homogeneity and low-level repetition.

3.3. Insufficient adaptation of digital media

The essence of insufficient adaptation of digital media is still dealing with digital communication with

the idea of paperwork. Designers often directly scale the complete pattern to the mobile phone interface or social media, ignoring the conditions of small-size recognition, scroll browsing, dynamic rhythm, and platform cutting. Complex graphics lose details after shrinking, bright colors deviate on different screens, and horizontal continuous patterns may also be truncated due to vertical screen composition. Some projects understand animation as allowing graphics to rotate, flicker, or move, without establishing the relationship between the way of movement and the meaning of the pattern, and the technical effect obscures the cultural content. Digital communication is also affected by platform algorithms and short-term attention. When the design lacks information hierarchy, the audience can only remember the strong surface style, and it is difficult to further understand the source of the pattern, resulting in an imbalance between high exposure and low cognition. This imbalance will also affect the follow-up evaluation. High playback volume may come from short-term visual stimulation, but it cannot prove that the audience understands the cultural meaning of the pattern.

3.4. Narrow design application scenarios

The narrow design application scenario is rooted in the fact that the project is mostly aimed at one-time delivery, and there is a lack of a transformation mechanism from cultural resources to continuous use. Tourist souvenirs, festival posters, and specialty packaging are convenient for short-term presentation of results, but they often stop spreading after the end of the event, and the pattern material has not been spread as a follow-up callable asset. The cooperation between design institutions, cultural venues, enterprises, and inheritors is mostly carried out around a single project, lacking clear data authorization, content review, version maintenance, and income distribution methods. Therefore, the lack of scenarios cannot be solved by simply increasing the product category. Behind it is that the use subject, operation cycle, and evaluation criteria have not yet been established. When the results lack maintenance subjects and subsequent budgets, even if the previous investment is high, it is easy to lose the conditions for continued use after technical updates, brand revisions, or personnel changes.

4. The graphic design activation strategy of Inner Mongolia traditional patterns in the context of digital communication

4.1. Deeply explore the cultural connotation of traditional patterns

Through the system filing and cultural audit, the cultural foundation of the activation of traditional pattern design is consolidated. The data collection can be completed by universities, museums, cultural centers, and inheritors, and form basic records according to six contents: physical source, image collection, name textual research, context of use, cultural interpretation, and status of rights. Each pattern not only preserves the vector diagram, but should also be attached to the original artifact photos, regional and age information, common combinations, and unsuitable occasions. For data with different names or meanings, different sources of statements and evidence should be retained to avoid covering cultural differences with a single description. In the design project stage, the cultural verification table is set up, which requires the designer to explain what patterns are used, what core meanings are retained, and what forms are adjusted. After the first draft is completed, the content is reviewed by cultural researchers or inheritors. The review focuses on misreading, mismatching, and improper combination, rather than limiting normal innovation. In this way, cultural interpretation can be pre-positioned from the text packaging at the end of the project as the basis

for design decision-making. The file can be set to three levels of disclosure: authorized use, restricted use, and each call record is retained. This is not only convenient for teaching and public communication, but also provides a clear boundary of rights for commercial projects.

4.2. Innovate the visual transformation of traditional patterns

Establish a hierarchical transformation specification to improve the scientificity and controllability of traditional pattern visual innovation. Firstly, the pattern is divided into a cultural recognition layer, a structural rule layer, and a performance change layer. The cultural identification layer includes key outlines, symbolic relations, and necessary combinations, which should not be deleted at random. The structural rule layer includes the proportion of primitives, the direction of bones, the repetition mode, and the boundary organization, which can be reorganized within the rules. The performance change layer includes line width, texture, color scale, and local decoration, which can be adjusted freely according to the media. Then three visual versions of “prototype version, simplified version, and derivative version” are established: the prototype version is used for cultural description and high-precision display, the simplified version is used for logos, icons, and small-size interfaces, and the derivative version is used for brand graphics and cultural and creative development. The design team can use vector parameters, grid, and shape grammars to record the generation process, so that each change is based on these parameters. Finally, the three indicators of cultural recognition, visual clarity, and scene applicability are evaluated to avoid determining the scheme only by aesthetic preference. The new project can be tested in a small audience, and then the proportion and details can be modified according to the recognition results.

4.3. Improve the adaptation ability of traditional pattern digital media

Construct a responsive digital vision system to enhance the adaptability of traditional patterns to multiple digital media. Three levels of detail standards can be established according to the display size: small size only retains the main contour and high identification nodes, medium size increases the internal structure, and large size presents complete texture and cultural description. In terms of color, screen color value, printing color value, and barrier-free contrast records are established to reduce cross-device deviation. Dynamic graphics should determine the rules of motion from the pattern structure and cultural meaning. For example, the rolling grass pattern presents the extension of life with continuous growth, the plate intestine pattern shows the circular relationship with path connection, and the cloud pattern maintains the sense of stretch with slow displacement. Each dynamic effect simultaneously produces three versions of static first frame, short cycle, and complete narrative to adapt to avatar, sticker, screen opening, and display. After online, the length of stay, click path, secondary use, and reading rate of cultural information are recorded. The data is used to judge whether the audience only sees the form or further enters the cultural content, and the information level is adjusted accordingly. For the generative design tool, the callable pattern library and generation parameters should be limited, and the manual audit link should be retained to prevent the model from mixing the graphics of different regions and different uses without basis.

4.4. Expand the application scenarios of traditional pattern design

Driven by high-frequency application scenarios, traditional patterns are promoted from single design to continuous operation. Four types of high-frequency scenes, including urban public vision, local brand

packaging, digital tours of cultural venues, and social media materials, can be selected for piloting. Each type of scene clarifies the user, use cycle, and maintenance responsibilities. The project organization establishes a tripartite agreement of “cultural data party, design execution party, operation user,” and clarifies the source of materials, audit nodes, authorization period, income distribution, and update methods. An authorization code is established for mature patterns, and users can query the source and design version. Each year, according to the number of applications, public feedback, the accuracy of cultural interpretation, and the return of income, the scheme of out-of-context use is eliminated, the assets for sustainable use are retained, and the pattern activation is changed from one-time works to public design resources for continuous operation. The pilot should not pursue the simultaneous coverage of all media, but should first form a set of models that can operate stably, and then expand to educational resources, cultural and creative commodities, and cross-regional communication.

5. Conclusion

Digital communication provides a new space for the presentation of traditional patterns in Inner Mongolia, but the quality of activation cannot be simply measured by exposure, product quantity, or technical effect. The research shows that the graphic design activation of traditional patterns has multiple values such as cultural inheritance, aesthetic renewal, media communication, and industrial development. At present, the main obstacles come from the fracture of cultural data and the design process, the lack of rules for visual transformation, the insufficient understanding of digital media logic, and the incomplete project operation mechanism. To this end, verifiable pattern knowledge files should be established, hierarchical visual specifications should be formed, responsive digital assets should be developed, and scene applications should be promoted through tripartite collaboration and continuous evaluation. Future research can further combine specific regions, pattern types, and user data to compare the cultural recognition and communication effects of different transformation methods, and improve the traditional pattern authorization and rights protection methods, so that digital activation can not only maintain cultural accuracy, but also enter public life for a long time.

Disclosure statement

The author declares no conflict of interest.

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