

Contemporary Head Styling Design Inspired by Guangxi Zhuang Costume Culture

Junling Zhou^{*}, Naruebodin Saleepun and Metta Sirisuk

Maharakham University, Maha Sarakham Province, Thailand

^{*} Corresponding Author Email: 513931839@qq.com

Abstract. The rich textile heritage of the Guangxi Zhuang ethnic group constitutes one of China's most complex visual systems, yet its preservation has remained largely confined to passive archiving and commercialized, superficial tourism displays. Drawing on a critical review of existing scholarship on Zhuang costume culture—spanning textile craftsmanship, color semiotics, motif iconography, and three-dimensional headwear construction—this paper argues that cross-border innovative design offers a rigorous methodology for heritage revitalization through contemporary head styling. The study proposes a multi-dimensional element extraction framework that guides the morphological conversion of traditional headwear mechanics into sculptural hair structures, avant-garde makeup artistry, and modernized accessories. A four-stage conceptual framework grounded in cultural semiotics and visual communication theory bridges historical ethnic aesthetics and twenty-first-century fashion culture.

Keywords: Guangxi Zhuang costume culture, contemporary head styling design, cross-border innovative design, cultural semiotics, design translation, heritage revitalization.

1. Introduction

The survival of traditional ethnic cultures within rapidly globalizing societies has emerged as one of the most critical challenges in contemporary heritage preservation and design theory. In Southwestern China, the Guangxi Zhuang Autonomous Region is home to the Zhuang people—China's most populous ethnic minority group—who possess a rich, distinct material culture expressed primarily through their traditional costumes and textile arts. Historically, Zhuang costume culture did not develop merely as functional body coverage; rather, it emerged as a highly sophisticated, living repository of the group's ecological adaptability, socio-political structures, animistic beliefs, and aesthetic philosophy. Every handwoven pattern, natural plant dye, hand-chased silver ornament, and headscarf fold in a traditional Zhuang ensemble functions as a semantic visual signifier, communicating tribal lineage, geographical origin, marital status, and the wearer's spiritual relationship with the natural and cosmological worlds [1, 15].

At the core of this textile heritage is the traditional Zhuang brocade, recognized as one of the 'Four Great Chinese Brocades,' renowned for its complex geometries, high-contrast colors, and symbolic motifs. The rapid forces of modernization, rural-to-urban migration, and cultural homogenization present an existential threat to this intangible cultural heritage. Traditional preservation paradigms, which rely heavily on passive archiving and museumification, have proven insufficient. More troublingly, the few occasions on which Zhuang costumes do re-enter public life have often been reduced to highly commercialized, superficial tourism displays that hollow out their cultural depth in favor of visual spectacle [1, 12].

This paper argues that cross-border innovative design—an active, practice-based methodology that systematically extracts, translates, and reconstructs the cultural DNA of traditional ethnic garments across creative disciplines—offers a meaningful and replicable alternative to passive archiving. Specifically, the study examines how the visual symbols, structural systems, and material textures of Zhuang costume culture can be translated into contemporary head styling design, encompassing avant-garde makeup artistry, sculptural hair design, and modernized accessories. The paper is organized as follows: Section 2 examines the cultural connotations of Guangxi Zhuang costumes; Section 3 reviews preservation and innovative transformation; Section 4 proposes a cross-border

design translation framework; Section 5 presents the conceptual framework; and Section 6 identifies research gaps before the concluding remarks [3, 4].

2. Cultural Connotations of Guangxi Zhuang Costume: Textile, Color, and Symbolic Systems

2.1 Textile Craftsmanship and Material Heritage

The scholarly literature on Zhuang costume culture has progressively moved beyond descriptive documentation toward deep interpretive analysis of its material and cultural dimensions. Work on Zhuang ethnic clothing yields a wealth of research insight, particularly in the area of textile techniques. Chen Liqin's foundational study on Zhuang clothing culture establishes a rigorous technical basis for understanding the structure and mechanics of Zhuang brocade production, identifying the mathematical precision and cultural encoding embedded in the weaving process itself. Zhang Hengcong, Liang Shaomei, and Tan Shanshan have extensively investigated the contemporary inheritance challenges facing these techniques, exploring the mechanisms through which tacit craft knowledge is transmitted across generations and the ways in which modern conditions are disrupting these knowledge pathways [1, 12].

Zhang Zijing (2023) demonstrates in a detailed study of the Guangxi Zhuang Gunfu craft that the structural and ornamental techniques of traditional Zhuang clothing carry spatial and tactile logics that cannot be reduced to surface patterns alone. The combined result of these distinct strands of scholarship produces a portrayal of Zhuang clothing that investigates the interconnection of technology, environment, gender, history, and identity. Particularly significant is the role of women artisans, who have historically served simultaneously as the designers, makers, wearers, and transmitters of ethnic textiles. Their tacit knowledge—embedded in the muscle memory of complex weaving, natural dyeing, and embroidery sequences—constitutes an irreplaceable intangible heritage that resists easy digitization [13, 11].

2.2 Color Symbolism and Ritual Significance

The color system of Zhuang costume functions as one of its most powerful semiotic subsystems. The traditional 'five-color' palette—dominated by deep indigo (blue/black), vermilion (red), ochre (yellow), emerald green, and stark white—is not an arbitrary aesthetic choice but an expression of the ethnic group's understanding of natural harmony, cosmological direction, and the elemental forces of nature. The deep indigo, produced from local *Strobilanthes cusia* plants through traditional fermentation and dye-vat techniques, carries connotations of purity, protection, and profound depth, while also establishing the quiet, absorptive base against which the vibrant primary colors of the brocade create their characteristic high-contrast aesthetic. Red tones evoke vitality, joy, and good fortune, while yellow and green encode agricultural abundance and natural vitality [5, 15].

The ritual dimension of Zhuang costume color is equally significant. Clothing among the Zhuang people does not merely serve as decoration; rather, it transforms the body into a site of cultural meaning, turning the wearer into a living embodiment of cultural memory, cosmological belief, and social identity. During festivals, wedding ceremonies, and ancestral rituals, attire transcends its material function and becomes an essential ritual element, marking boundaries between ordinary time and sacred time, between individual and collective identity. This ritualized relationship between costume and body is foundational to the cross-border design argument: if the body itself is established as a primary cultural canvas within Zhuang tradition, then expanding this canvas from clothed body to styled head represents not a rupture with tradition but a natural extension of its logic [5, 16].

2.3 Motif Iconography and Cosmological Worldview

The motif systems woven, embroidered, and printed into Zhuang textiles constitute the most studied yet most semantically complex dimension of Zhuang visual culture. Recurring design

elements such as the frog pattern, bronze drum, sun pattern, cloud-and-thunder border, and rice ear motif are not merely decorative elements but essential components of Zhuang creation mythology and agricultural cosmology. The frog totem is particularly central: in traditional Zhuang belief, the frog is revered as the divine messenger of the Thunder God, representing fertility, water, and rain-calling rituals that govern paddy-rice agricultural survival. Zhao Yuanyuan (2022) notes that these motifs must be understood not in isolation but as interconnected elements of a coherent cosmological worldview that uses textile as its primary medium of expression [15, 16].

From a design perspective, the motif system presents both rich creative resources and serious interpretive responsibilities. These motif-related meanings are usually transmitted through oral and practical learning, making them vulnerable to misinterpretation when designers extract and recontextualize them without adequate cultural grounding. This points to a critical methodological principle for cross-border design: the translation of Zhuang motifs into contemporary head styling must be preceded by rigorous semiotic analysis that distinguishes between the signifier (the visual form of the frog pattern) and the signified (its cosmological meaning as fertility symbol and divine messenger), so that the design translation preserves the essential cultural logic rather than merely copying the graphic surface [3, 13].

Table 1 presents a structured extraction matrix of key Zhuang costume cultural elements and their design semantics, providing a practical foundation for the cross-border translation process discussed in subsequent sections.

Table 1. Guangxi Zhuang Costume Cultural Element Extraction Matrix

Element Category	Traditional Form	Cultural Semantic	Design Translation Potential
Textile Craftsmanship	Zhuang brocade, hand-loom weaving, indigo dyeing	Ancestral knowledge, feminine skill, ecological wisdom	Textural simulation in hair media; woven/layered compositions
Color: Indigo/Black	Deep indigo (Strobilanthes cusia dye), black cottons	Purity, protection, power, connection to earth	Matte base tones in makeup; dramatic dark ground in hair sculpture
Color: Primary Palette	Vermilion, ochre yellow, emerald green, white accents	Vitality (red), abundance (yellow/green), clarity (white)	High-contrast color blocking in eye and lip design; accent accessories
Motif: Frog Totem	Geometric frog pattern in brocade; bronze drum imagery	Fertility, rain-calling, connection to Thunder God	Geometric abstraction into graphic eyeliner; brow architecture
Motif: Solar/Cloud-Thunder	Sun disc, cloud-and-thunder border patterns	Celestial vitality, cosmic order, seasonal cycle	Radial compositions in makeup; circular hair volume structures
Headwear: Jiulian Wrap	Nine-fold wrapping technique; multi-directional textile folding	Social status, spiritual protection, spatial identity	Folded hair planes; geometric volume in sculptural hair design
Silver Ornaments	Hand-chased silver plaques, dangling tassels, hairpins	Wealth, protective symbolism, aesthetic contrast with textile	Lightweight laser-cut and resin accessories; metallic makeup finishes
Material Texture	Dense brocade weave relief, matte indigo cotton, reflective silver	Tactile cultural memory; visual contrast language	Juxtaposition of matte/metallic finishes; texture layering in hair media

3. Preservation, Inheritance, and Innovative Transformation of Guangxi Zhuang Costume Culture

3.1 From Passive Preservation to Productive Inheritance

The native habitat of Zhuang costume culture has witnessed significant transformation in contemporary society, posing enormous challenges to its traditional forms of production, wearing, and inheritance. Productive preservation theory proposes that cultural practices can only sustain genuine vitality when they remain economically, socially, and creatively active. Chen Liqin (2009) emphasizes a strategy of 'protective development'—insisting that protection and innovation are not opposing forces but complementary dimensions of a coherent cultural strategy. From this perspective, the essential aesthetic logic, symbolic values, and structural principles of the Zhuang tradition need to find new forms and new media through which they can remain meaningfully present in contemporary life [1, 2, 8].

The challenge of inheritance is compounded by the rapid breakdown of the socio-ecological systems that sustained traditional Zhuang textile production. Traditional handlooms are being abandoned as younger generations migrate to urban centers, leading to a critical shortage of skilled successors. The digital archiving of traditional patterns—as advocated by Zhao Yuanyuan and Zhu Ziming (2024) in their work on digital protection of Zhuang ethnic costume patterns—can preserve formal knowledge but cannot transmit the embodied, procedural knowledge that makes the tradition alive. Effective inheritance therefore requires not only digital documentation but active creative reengagement that puts the principles of Zhuang costume culture to work in new design contexts [16, 12].

3.2 Challenges: Tourism Commodification and Superficial Cultural Display

Tourism development has been widely explored as an important platform for cultural revitalization and value creation. Zhang Hengcong et al. (2020) identified both the economic opportunities and the cultural risks that tourism engagement entails. A central concern is what we might call the commodification trap: the pressure that commercialization exerts on cultural practices to simplify, standardize, and spectacularize for external tourist audiences. In many Zhuang tourism contexts, traditional costumes have been relegated to static museum showcases, theatrical stage performances, or highly commercialized, superficial tourism displays that strip the garments of their contextual meaning and reduce them to visual props [12, 5].

Scholars such as Wang Yue (2022) and Yi Yongfang (2024) have argued that sustainable cultural tourism must move beyond spectacle-based displays toward immersive, participatory, and educationally grounded cultural experiences. The key distinction the literature draws is between design that extracts and translates cultural principles—engaging the deep grammar of the tradition—and design that merely quotes cultural symbols without understanding or respecting their meaning. Cross-border innovative design, as theorized in this research, aims squarely at the former: a rigorous, research-led approach that takes the cultural system of Zhuang costume seriously as a source of design intelligence rather than simply as a catalog of decorative motifs [5, 10].

3.3 Innovative Transformation and Cross-Disciplinary Design Applications

Positive explorations in innovative transformation have already demonstrated the creative potential of Zhuang costume culture across multiple design disciplines. Wu Lin and Chen Yongyuan (2020) investigated character image design incorporating Guangxi ethnic minority makeup elements; Yang Huaiqiang (2023) explored innovative design strategies for contemporary Zhuang clothing in his MA research [6]; and Zhang Zongdeng, Cao Dong, and Luo Yu (2025) developed a methodology for cultural and creative product design based on the headwear patterns of Yao women in Northern Guangdong, providing a directly applicable precedent for the headwear-to-styling translation project pursued in this research [14]. Wang Jiafei (2019) has articulated a broader framework for cross-border creation of intangible cultural heritage creative products, identifying the key principles of cultural

respect, formal abstraction, and semantic fidelity that must guide any successful interdisciplinary translation [4].

Tang Ying and Yu Zhiwei (2025) propose the concept of the 'cultural gene map' as a methodological tool for capturing not only the visual surface of traditional craftsmanship but also its underlying structural and conceptual logics—the patterns of decision-making, material preference, and aesthetic judgment that constitute the tacit intelligence of the tradition. By constructing such a gene map for Zhuang costume culture, designers gain access to a generative system rather than a fixed repertoire, enabling them to produce new designs that are genuinely rooted in the tradition's deep logic rather than merely citing its surface forms [3].

4. Cross-Border Design Translation: From Costume to Contemporary Head Styling

4.1 Multi-Dimensional Element Extraction Framework

The translation of Zhuang costume culture into contemporary head styling design begins with a rigorous, multi-dimensional process of element extraction that goes far beyond the collection of visual patterns. This extraction process operates across five interconnected dimensions. The first dimension is silhouette and spatial composition: the three-dimensional architectural principles governing the construction of Zhuang garments—including the draping effect of Black-Clothed Zhuang robes and the layered volume of wrapped headscarves—translate into compositional principles for facial and hair design, informing the distribution of visual weight and the relationship between the face and the overall head composition. The second dimension is the color system: a detailed understanding of the cultural meanings of each color in the Zhuang palette enables designers to deploy color as semantic communication, carrying the solemnity of black, the purity of indigo, the vitality of red, and the abundance of yellow and green into new cosmetic and accessory contexts [5, 15].

The third dimension is patterns and motifs: rather than copying graphic designs, the extraction process requires designers to analyze the connotations of each motif and identify the formal principles—symmetry, repetition, geometric abstraction, spatial rhythm—that make each motif visually and semantically effective. These principles can then be applied to new design surfaces, including the contours of the eyelid, the curve of the brow, or the volume of a hair structure, where the motif's visual logic is preserved even as its specific form is adapted to a new medium. The fourth dimension is materiality and craftsmanship: the textures of hand-crafted textiles, the three-dimensional relief of brocade weft design, and the high-reflectivity of silver ornaments provide a rich vocabulary of tactile and visual qualities translatable into cosmetic product textures, hair media treatments, and accessory surface finishes. The fifth dimension is the spiritual and aesthetic essence: the animistic philosophy of Zhuang culture—its nature worship, its ethic of harmonious co-existence, its 'Na culture' aesthetic of abundance and organic growth—should characterize the underlying design philosophy [3, 13].

Figure 1 presents the overall design translation pathway from Guangxi Zhuang costume culture to contemporary head styling design, illustrating the five extraction dimensions and three primary output domains.

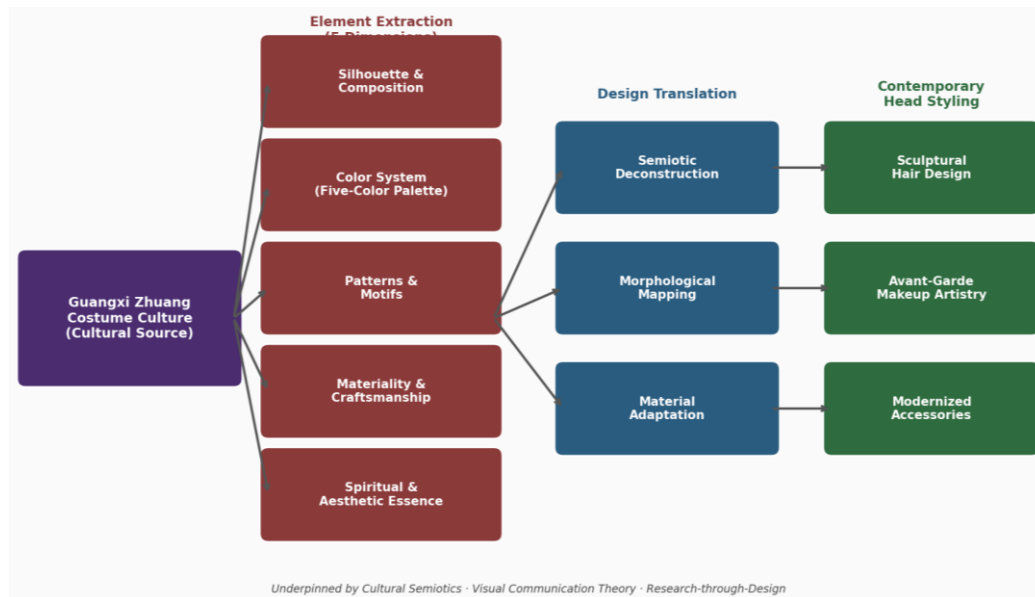


Figure 1. Design Translation Pathway from Guangxi Zhuang Costume Culture to Contemporary Head Styling

4.2 Morphological Translation of Zhuang Headwear into Sculptural Hair Structures

The most architecturally complex and directly applicable dimension of Zhuang costume culture for contemporary head styling is the traditional headwear system. Within Zhuang social life, the head is regarded as the most sacred part of the body and the primary site for spiritual and social signaling, making the headwear tradition the richest repository of design intelligence for this research. The traditional headscarf is not a static piece of millinery but a dynamic, sculptural form created through complex wrapping techniques. The Jiulian (nine-fold) wrapping sequence is the most architecturally sophisticated of these techniques: through a series of precisely choreographed folding, multi-directional twisting, tight knotting, and tension layering operations, the stylist transforms a flat, two-dimensional handwoven textile into a complex, architectural, three-dimensional volume surrounding the skull [7, 1].

The morphological translation of these headwear mechanics into sculptural hair structures proceeds by identifying the core structural operations of each traditional technique and mapping them onto the physical properties and styling possibilities of human hair. For the translation of the Jiulian folding sequence, the hair stylist divides the hair into geometrically calculated sections that correspond to the angular planes of the traditional fold. Using high-temperature flattening irons and specialized setting polymers, these sections are shaped into precise, crease-edged planes that replicate the angular geometry of the folded textile. For knotting, twisting, and wrapping mechanics, wire armature cores provide structural scaffolding that allows hair extensions, synthetic wefts, and natural hair to be wrapped and layered into the same three-dimensional volumes. Custom-fabricated accessories—using lightweight laser-cut metals, acrylic resins, and 3D-printed resin cores—replicate the visual language and reflective brilliance of traditional silver plaques while maintaining wearability. Table 2 presents the structural translation matrix for the key headwear-to-hair mapping operations [7, 13].

Table 2. Structural Translation Matrix from Zhuang Textile Headwear to Sculptural Hair Styling

Traditional Headwear Technique	Structural Mechanic	Translation Method	Contemporary Hair Styling Outcome
Jiulian Nine-Fold Wrapping	Sequential angular folding creating planar volume around skull	Geometric sectioning; heat-set angular planes with polymer fixative	Faceted, crease-edged hair sculpture replicating textile fold geometry
Multi-directional twisting	Interlocking spiral tension creating dense helical forms	Rope-braid armature with setting spray; synthetic weft integration	Defined helical column or tower hair structures with textile-like density
Tight knotting and anchoring	Strategic knot points distributing structural tension across the head	Invisible wire armature nodes; tension balancing with extension wefts	Gravity-defying structural volumes with stable, comfortable anchoring
Layered fabric stacking	Multiple textile planes creating stepped, tiered visual depth	Graduated panel sectioning; layered synthetic/natural hair panels	Stepped, architectural hair silhouette with visible planar depth
Silver plaque integration	Heavy carved silver stitched to headscarf as visual anchor and ornament	Lightweight laser-cut metal or resin accessories clipped to armature nodes	High-reflectivity ornamental focal points echoing traditional silver aesthetics

4.3 Makeup Artistry and Accessory Design as Cultural Canvas

Beyond the structural translation of headwear into sculptural hair forms, cross-border innovative design extends the canvas of Zhuang cultural expression to include avant-garde makeup artistry and modernized head accessories. In this extended design system, the human face itself becomes the primary canvas for the transposition of Zhuang's high-contrast color values and abstract geometric motifs. Avant-garde makeup artistry becomes the medium through which the five-color brocade palette and the ancestral totem patterns are applied directly to the skin: ultra-matte pigments simulate the dense, absorbent quality of indigo-dyed cotton, while liquid metallics replicate the high-reflective brilliance of hand-carved silver ornaments. The cosmetic translation of Zhuang motifs—adapting frog geometry into graphic eyeliner architecture, rendering cloud-and-thunder borders as brow design elements, or expressing the solar disc pattern as a radial blush composition—requires careful semiotic analysis to ensure that the abstraction process preserves the visual logic of the original motif while adapting it to the ergonomic contours and scale of the face [6, 15].

The concept of the human head, face, and neck as a 'living canvas' for cultural expression echoes and extends the traditional Zhuang understanding of the body as a primary site of cultural signification. In practice-led research involving makeup and hair styling on live models, responsible canvas and model safety protocols are essential: these protocols govern informed consent procedures, material safety assessments for all products applied to skin and hair, and structural safety evaluation of accessory armatures. Zeng Yanhong (2021) notes in her analysis of the artistic characteristics of traditional Zhuang embroidery that the translation of embroidered textiles into other media must be governed by the same respect for material integrity and human dignity that characterizes the original craft tradition—a principle that applies equally to the translation of Zhuang aesthetics onto the living human body in contemporary head styling contexts [11].

5. Conceptual Framework: Theory and Application

5.1 Theoretical Foundations

The theoretical foundations of this research draw upon three intersecting bodies of scholarship: cultural semiotics, visual communication theory, and theories of cultural hybridity and identity transformation. From cultural semiotics, the research inherits the conceptual vocabulary of signifier and signified: the visual elements of Zhuang costume culture—its colors, patterns, structural forms,

and material textures—are understood as signifiers whose meaning can be partially preserved when the signifier is translated into a new medium, provided the translation respects the semantic relationship between form and meaning. Visual communication theory contributes the understanding that contemporary head styling design is not merely an aesthetic practice but a powerful medium of identity expression and cultural communication. Cultural hybridity theory, as developed in contemporary cultural studies, provides the framework for understanding this design work as a dynamic, generative encounter between different temporal and cultural systems that produces new forms of cultural meaning while maintaining roots in the heritage tradition [3, 10].

5.2 Four-Stage Design Translation Framework

Synthesizing insights from the literature review and the theoretical foundations outlined above, this research proposes a four-stage design translation framework. The first stage is cultural foundation and visual documentation: systematic fieldwork, ethnographic observation, museum study, and engagement with Zhuang costume collections to develop a comprehensive understanding of the visual, material, symbolic, and structural dimensions of Zhuang costume culture. This stage produces a detailed cultural element database that maps the connections between specific visual elements and their cultural meanings. The second stage is element analysis and extraction: applying the five-dimensional extraction framework described in Section 4.1, this stage produces a structured matrix of design-ready cultural elements, organized by category (color, motif, structure, texture, spiritual essence) and annotated with their cultural semantics and design translation potential [3, 4].

The third stage is design translation and prototype development: the extracted cultural elements are systematically translated across design disciplines using the morphological, semiotic, and material translation methods described in Section 4. Iterative prototyping, critical reflection, and feedback from expert evaluators—including cultural inheritors, design educators, and fashion industry practitioners—guide the refinement of design solutions. The fourth stage is contemporary application and multi-dimensional evaluation: translated design solutions are realized as complete contemporary head styling compositions—encompassing sculptural hair design, avant-garde makeup artistry, and modernized accessories—and evaluated across multiple dimensions including cultural relevance, aesthetic impact, technical execution, and wearability. Figure 2 presents the research conceptual framework as a visual model [3, 9].

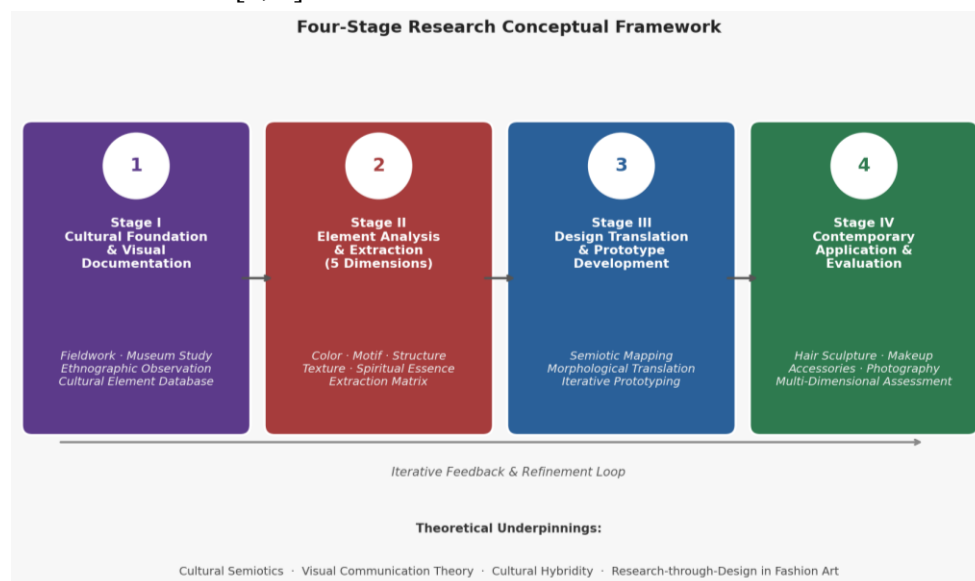


Figure 2. Four-Stage Research Conceptual Framework for Cross-Border Innovative Design

6. Research Gaps and Innovation Opportunities

Despite the considerable body of scholarship on Guangxi Zhuang costume culture reviewed above, a critical gap remains between cultural knowledge and design practice. The existing literature has produced sophisticated accounts of the history, techniques, color systems, motif iconographies, and cultural connotations of Zhuang costume culture, yet these accounts remain largely confined to the domain of cultural documentation and analysis. While scholars such as Wu Lin and Chen Yongyuan (2020) have begun to explore the application of Guangxi ethnic minority makeup elements in character image design, and Xiao Yao (2022) has provided an overview of ethnic costume headwear [6], there is as yet no comprehensive, methodologically rigorous study that translates the full depth of Zhuang costume culture into a systematic contemporary head styling design framework [7].

A second gap exists between the growing demand for culturally immersive tourism and fashion experiences and the limited supply of design resources that can deliver genuine cultural depth rather than superficial ethnic spectacle. Zhuang costume rental and cultural photography experiences have proliferated in Guangxi's tourism destinations, yet the design quality and cultural authenticity of these experiences vary enormously, with a widespread tendency to reproduce commercially convenient visual clichés. Cross-border innovative design research that produces a rigorous, replicable methodology for translating Zhuang costume culture into contemporary head styling directly addresses this supply gap, offering tourism operators, fashion photographers, and editorial designers a principled framework for culturally responsible and aesthetically sophisticated creative work [5, 10].

A third gap is methodological: existing research has not developed an interdisciplinary framework that bridges the fields of ethnic costume studies, contemporary makeup design, and sculptural hair styling in a coherent, systematically testable form. The structural translation matrix proposed in this paper (Table 2) represents a first step toward filling this gap, but its full elaboration requires the practice-led research, expert consultation, and iterative prototyping described in the four-stage framework [3, 14].

7. Conclusion

This paper has argued that cross-border innovative design offers a rigorous and culturally responsible methodology for translating the rich visual heritage of Guangxi Zhuang costume culture into contemporary head styling design. Drawing upon an extensive body of scholarship, it has demonstrated that Zhuang costume culture is not a static repertoire of decorative motifs but a complex, multi-dimensional semiotic system that encodes cosmological knowledge, social organization, material intelligence, and aesthetic philosophy in its textiles, colors, patterns, headwear structures, and silver ornaments. This system contains generative design intelligence that, when accessed through rigorous element extraction, semiotic analysis, and principled morphological translation, can inform a new generation of avant-garde head styling work that is simultaneously globally communicable and deeply rooted in the traditions of one of China's most distinctive ethnic cultures.

The paper has identified three critical research gaps: the gap between cultural scholarship and design practice; the gap between tourism demand for culturally authentic experiences and the supply of rigorous design methodologies; and the interdisciplinary methodological gap between ethnic costume studies, contemporary makeup design, and sculptural hair styling. Addressing these gaps requires not only creative design work but also a commitment to the systematic data analysis and synthesis procedures, the responsible canvas and model safety protocols, and the iterative expert evaluation processes that distinguish research-through-design from commercial trend-following. The cultural DNA of Guangxi Zhuang costume culture—its mathematical geometry, its cosmological color language, its architecturally sophisticated headwear structures, and its profound integration of material beauty and spiritual meaning—offers an inexhaustible source of design inspiration for contemporary head styling art.

References

- [1] Chen, L. Q. (2009). A study of Zhuang clothing culture. Guangxi People's Publishing House. <https://www.book118.com/html/20210308/7056060071011211.shtm>
- [2] Tan, Y., Zhang, J. F., & Wang, J. H. (2020). Research on the application of traditional Zhuang costume culture in modern fashion design. *Journal of Silk*, 57(3), 41–47. <https://doi.org/10.3969/j.issn.1001-7003.2020.03.008>
- [3] Tang, Y., & Yu, Z. W. (2025). Construction and design translation of the cultural gene map of traditional Zhuang craftsmanship. *Decorative Arts*, (2), 78–84.
- [4] Wang, J. F. (2019). Design research on cross-border creation of intangible cultural heritage creative products. *Packaging Engineering*, 40(10), 297–302. <https://doi.org/10.19554/j.zbjgc.2019.10.0297>
- [5] Wang, Y. (2022). Decorative pattern characteristics of Zhuang ethnic clothing patterns in Guangxi. *Yuejiang Academic Journal*, 14(4), 112–118.
- [6] Wu, L., & Chen, Y. Y. (2020). A study on character image design with Guangxi ethnic minority makeup elements. *Art and Design (Theory)*, (8), 74–76.
- [7] Xiao, Y. (2022). Ethnic costume art: Headwear chapter. *Shanghai Textile Technology*, 50(8), 90–93. <https://doi.org/10.3969/j.issn.1001-2044.2022.08.090>
- [8] Xu, X., & Zhang, Y. X. (2025). Reconstruction of ethnic costumes under the background of rural revitalization: A case study of Zhuang brocade. *Art and Design*, (1), 55–60.
- [9] Yang, H. Q. (2023). Research on innovative design of Zhuang clothing [Master's thesis]. Tianjin University of Science and Technology.
- [10] Yi, Y. F. (2024). Cross-border integration of fashion design and visual communication design. *Printing Field*, (6), 88–91.
- [11] Zeng, Y. H. (2021). Analysis of the artistic characteristics and causes of traditional embroidery of the Zhuang nationality in Guangxi. *Arts and Crafts*, (4), 64–67.
- [12] Zhang, H. C., Liang, S. M., & Tan, S. S. (2020). Investigation and analysis of the inheritance of Guangxi Zhuang brocade weaving techniques. *Journal of Silk*, 57(10), 63–69. <https://doi.org/10.3969/j.issn.1001-7003.2020.10.011>
- [13] Zhang, Z. J. (2023). Research on the application of Guangxi Zhuang nationality Gunfu craft in modern women's clothing design. *Wool Textile Journal*, 51(5), 98–104. <https://doi.org/10.3969/j.issn.1003-1480.2023.05.098>
- [14] Zhang, Z. D., Cao, D., & Luo, Y. (2025). Research on the design of cultural and creative products based on the headwear patterns of Yao women in northern Guangdong. *Packaging Engineering*, 46(4), 323–330. <https://doi.org/10.19554/j.zbjgc.2025.04.323>
- [15] Zhao, Y. Y. (2022). Research on the culture and art of costume patterns of ethnic minorities living in the Pearl River Basin. *Journal of Silk*, 59(6), 130–136. <https://doi.org/10.3969/j.issn.1001-7003.2022.06.021>
- [16] Zhao, Y. Y., & Zhu, Z. M. (2024). Research on the cultural and artistic characteristics of Zhuang ethnic costume patterns and their digital protection. *Packaging Engineering*, 45(8), 312–319. <https://doi.org/10.19554/j.zbjgc.2024.08.312>