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# Cultural heritage as human capital: Integrating Yao identity and circular design for sustainable workforce engagement in jewelry industries

Danfeng Chen, Vuthipong Roadkasamsri\*

Faculty of Fine-Applied Arts and Cultural Science, Maharakham University, Kantharawichai District, Maha Sarakham 44150, Thailand

\* **Corresponding author:** Vuthipong Roadkasamsri, [vuthipong.r@msu.ac.th](mailto:vuthipong.r@msu.ac.th)

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**Abstract:** This study investigates the integration of Yao ethnic cultural history into sustainable jewelry design and its implications for human resource planning, organizational management, and employee engagement techniques within creative sectors. The research emphasizes new approaches to improving employee well-being, work happiness, and organizational commitment by integrating cultural authenticity with circular economy concepts. The study specifically aims to (1) use Yao cultural elements to strengthen the organization's identity and boost employee pride, (2) evaluate how consumers respond to circular economy ideas and how these ideas impact employee motivation and performance, and (3) explore how sustainability efforts based on culture affect consumer behavior and the morale of the workforce. We used a mixed-methods approach, combining qualitative interviews with fifteen experts in design, sustainability, and cultural heritage with a quantitative survey of 240 participants. Research indicates that using Yao motifs—such as traditional needlework and nature-inspired designs—enhances market attractiveness and promotes more employee alignment with business ideals, hence improving satisfaction and performance. The increasing customer acceptance of recycled and upcycled items enhances employees' sense of purpose and engagement. These findings highlight the importance of incorporating sustainable HR practices, including culturally oriented training and open ethical principles, to enhance labor relations and foster equity. Utilizing cultural heritage in design innovation serves as a strategic instrument to enhance human capital and promote long-term organizational sustainability.

**Keywords:** Yao cultural heritage; sustainable design; employee engagement; human resource strategy; circular economy

## 1. Introduction

Sustainability has emerged as a strategic focus in consumer markets and organizational management, especially within creative sectors such as jewelry design. As environmental and social responsibility become increasingly significant, organizations must assess their influence on employee engagement, corporate identity, and the development of human capital (Saks & Gruman, 2020; Wang et al., 2020). The transition from resource-intensive methods to circular economy models—such as recycling, upcycling, and bio-based materials—has transformed manufacturing processes, worker dynamics, and organizational culture (Grzesiak & Striker, 2024).

The Yao people's extensive traditions in silverwork, embroidery, and symbolic patterns provide a significant cultural basis for enhancing employee pride, well-being, and corporate unity. Incorporating Yao cultural themes into sustainable jewelry design enriches internal culture, fosters equitable employment, and boosts job satisfaction through a collective sense of identity and purpose (Li & Manan, 2024; Hertz, 2024; Wu, 2020; Zhang, 2022). Research indicates that culturally embedded workplaces

enhance organizational engagement and job satisfaction by facilitating meaningful work experiences and promoting inclusive identity expression (Colleoni et al., 2021; Bonsu, 2020).

The worldwide jewelry industry is currently facing increased scrutiny regarding environmental and social issues, including unethical labor practices, resource depletion, and carbon emissions (Amatulli et al., 2017; Mukendi et al., 2020; Feng et al., 2020; Lee et al., 2024). Embracing sustainable and circular design techniques fulfills consumer expectations for transparency and guides organizational policy, workforce development, and long-term sustainability (Attori, 2023; Fobiri et al., 2024; Niinimäki & Hassi, 2011). Circular economic integration bolsters organizational resilience and fosters eco-innovation, simultaneously strengthening employees' trust in leadership ethics and collective values (Martin et al., 2022; Hameed et al., 2023).

Legacy significantly influences organizational narratives and community identity within craft industries. The jewelry traditions of the Yao community showcase their craftsmanship, intergenerational knowledge, and social cohesion, thereby sustaining corporate cultures of equity, inclusivity, and well-being (Sin-wai, 2020; Yao, 2021; Zhang & Yang, 2024). Incorporating cultural authenticity in design cultivates employee loyalty, fortifies labor relations, and promotes job happiness by improving social and psychological engagement. These results are intricately associated with sustainable HR practices, wherein employee motivation and emotional engagement are influenced by leadership integrity and inclusive ideals (Chacko & Conway, 2019; Loring & Wang, 2022).

The utilization of circular materials, such as recycled silver and lab-grown gemstones, enhances staff education while cultivating pride in sustainable and ethical methods. Research indicates that sustainability-focused workplaces boost employee engagement, align values, and enhance performance outcomes, therefore increasing organizational success (Keller-Aviram, 2021; Tenuta et al., 2024; Yin, 2020). Moreover, strategic HR planning in creative organizations must account for the influence of cultural embeddedness and eco-innovation on talent retention, employee well-being, and workplace engagement (Grzesiak & Striker, 2024; Figueroa-Domecq et al., 2020).

Although sustainable jewelry design has attracted academic interest, limited research examines the convergence of cultural heritage and sustainability via the lens of human resources and organizational management. Confronting issues like cultural appropriation, preservation of artisanal quality, and story transmission requires deliberate human resource planning and policy formulation. This entails formulating employee-focused strategies that include human capital considerations into product design, branding, and sustainability ethics (Bonsu, 2020; Wang et al., 2020).

This study examines the impact of incorporating Yao cultural history into circular jewelry design on consumer behavior, staff attitudes, organizational cohesiveness, and workforce sustainability. It investigates the influence of cultural factors on business identity, analyzes staff and consumer reactions to environmentally sustainable design, and evaluates the effects of Yao heritage and sustainability on company culture, engagement, and purchasing behavior.

This research provides novel perspectives on the convergence of cultural heritage, sustainability, and human resource management, with actionable implications for

policy, training, and organizational strategy. It underscores the connection between design innovation and human capital, illustrating how cultural narratives and environmental values foster organizational development and employee well-being (Colleoni et al., 2021; Saks & Gruman, 2020). This section delineates the study methods employed to investigate these processes.

## 2. Materials and methods

### 2.1. Research design

A mixed-methods approach was employed to examine the integration of Yao heritage and circular economy principles in sustainable jewelry design, focusing on their influence on HR practices and organizational strategy. This design enables a comprehensive analysis of how cultural authenticity and sustainability shape corporate identity, employee engagement, training needs, and policy development.

#### 2.1.1. Survey sampling design

Participants included two main groups: experts and survey respondents. Fifteen experts were purposively selected across fields such as jewelry design, cultural heritage, sustainability, ethnology, marketing, materials science (with emphasis on recycling), and human resource development. Their insights informed the evaluation of how Yao cultural elements and circular practices enhance organizational culture, employee satisfaction, and human capital development. **Table 1** outlines the expert categories and selection rationale.

**Table 1.** Expert categories and rationale for selection.

Categories of experts	Rationale for selection
Jewelry designers	Offer insights into merging traditional craftsmanship with modern sustainable practices, providing a basis for employee training in new design approaches.
Cultural heritage experts	Ensure authentic and respectful integration of Yao culture, supporting organizational policies on cultural sensitivity and fairness in employment.
Sustainability experts	Provide input on circular economy practices, informing employee development in eco-conscious production methods and organizational sustainability strategies.
Ethnologists	Assess social and cultural contexts, informing policies and training for respectful cultural engagement and employee well-being.
Marketing professionals	Evaluate market perceptions and communication strategies, supporting organizational identity and employee alignment with brand values.
Materials scientists	Advise on the feasibility and impact of recycled materials, informing workforce technical training and innovation capacity-building.
Human resource development experts	Guide integration of cultural and sustainable practices into HR strategies, including training programs, policy formulation, and employee engagement initiatives.

The multidisciplinary expertise of the specialists enabled a holistic analysis of the intersections between cultural heritage, sustainability, and human capital development, supporting the study's aim to inform HR policies that promote productivity, well-being, and equity.

### 2.1.2. Rationale for survey sampling design

Survey participants were selected based on age, cultural knowledge, and interest in sustainable or ethical jewelry. **Table 2** outlines their demographics and selection rationale.

**Table 2.** Target survey respondent groups, rationale for selection, and demographics.

Respondent groups	Rationale	Demographics
Consumers of jewelry (100 participants)	Provide foundational insights on perceptions of cultural authenticity and sustainability, informing HR approaches to employee-consumer value alignment.	Young professionals focused on sustainable fashion, middle-aged consumers valuing cultural identity, and eco-conscious buyers.
Jewelry collectors or enthusiasts (20)	Offer nuanced views on craftsmanship and authenticity, supporting employee training in storytelling and cultural engagement.	Artisan jewelry collectors and enthusiasts following sustainable jewelry trends.
Target markets for cultural jewelry (100)	Evaluate cross-cultural perceptions and expectations, supporting diversity, equity, and inclusion strategies in workforce development.	Yao community members and individuals interested in cultural or historically significant jewelry.
Industry professionals or influencers (20)	Provide industry perspectives on market trends and organizational reputation, aiding in policy and HR strategy formulation for employee development and engagement.	Designers, sustainable fashion advocates, and influencers focused on ethical and cultural jewelry promotion.

This diverse participant structure ensured that both consumer and industry perspectives informed recommendations for organizational development, staff training, and cultural integration.

### 2.1.3. Survey sampling strategy and limitations

#### *Survey sampling*

The survey employed a non-probability purposive sampling strategy designed to recruit participants with varying levels of familiarity and interest in cultural and sustainable jewelry. Initial eligibility criteria included:

- Age over 18
- Awareness of cultural heritage in product design
- Interest in sustainable, ethical, or handmade jewelry
- Participants were recruited via targeted outreach on social media platforms (Facebook, Line, Instagram) and through email invitations distributed via networks of sustainable design organizations and cultural interest groups. To increase response diversity, posts were shared in both general lifestyle communities and niche groups focusing on artisanal crafts and cultural fashion.

Survey participation was voluntary, with a brief screening question ensuring alignment with eligibility. We attempted to balance demographics, but the online nature of recruitment overrepresented urban, internet-literate, and culturally engaged users.

While a convenience sampling strategy was employed due to accessibility constraints and the exploratory nature of the study, participant diversity was maximized through recruitment in multiple platforms and networks, targeting varied

interest groups in cultural, fashion, and sustainability domains. We recognize the limitation this imposes on statistical generalizability, which we have explicitly noted in this section.

#### *Limitations of the sampling strategy*

Limitations of the sampling strategy include:

- Self-selection bias: Individuals already interested in cultural or sustainable products may have been more inclined to participate, skewing responses positively.
- Limited representativeness: The majority of respondents were from urban and educated backgrounds, potentially limiting applicability to broader rural or lower-income consumer segments.
- Platform-restricted recruitment: Using social media channels may have excluded participants not active on these platforms, affecting demographic diversity.

Despite these constraints, the purposive sampling approach allowed for rich, contextually relevant insights aligned with the study's exploratory objectives. Future studies could enhance generalizability by employing stratified random sampling, in-person outreach, or collaborations with Yao community institutions for broader demographic reach.

#### **2.1.4. Data collection instruments**

Data collection involved in-depth expert interviews and a structured survey.

##### *In-depth expert interviews*

Interviews explored:

- **Cultural integration**—Approaches for embedding Yao motifs and traditional metalwork into design, supporting culturally informed employee training.
- **Sustainable design**—Challenges and strategies in using recycled materials, developing sustainability policies, and delivering technical training.
- **Consumer trends**—Expectations for culturally and environmentally sustainable products, informing HR strategies that align staff motivation with market values.
- **Circular economy**—Adapting traditional practices to circular models to enhance workforce skills in reuse-oriented production.

##### *Survey*

The survey employed Likert-scale, multiple-choice, and open-ended questions to assess consumer attitudes toward culturally integrated and sustainable jewelry, examining their potential influence on job satisfaction, organizational culture, and brand alignment. It was distributed online to 240 respondents via email and social media. See Appendix 1 for the full questionnaire.

#### **2.1.5. Reliability and validity checks**

To ensure content validity, the survey was pilot-tested with 30 participants whose demographic characteristics matched the target audience. Feedback from the pilot study led to refinement of ambiguous wording, response options, and item relevance. For reliability, internal consistency of the Likert-scale items was confirmed using Cronbach's Alpha ( $\alpha = 0.82$ ), which indicates good reliability. Items with poor item-total correlation were revised or removed prior to final deployment. This process

ensured alignment between the constructs measured and the theoretical framework of cultural and sustainable HR practices.

### 3. Results

#### 3.1. Overview

##### 3.1.1. Yao cultural significance and HR identity enhancement

Traditional Yao jewelry embodies cultural heritage through refined silverwork and symbolic motifs reflecting nature, spirituality, and communal identity. As shown in **Figure 1**, dragons, butterflies, and geometric patterns signify protection, fertility, and harmony with the environment.



**Figure 1.** Yao cultural motifs and their role in strengthening organizational identity and employee engagement.

**Figure 1** illustrates key Yao motifs—dragons, butterflies, and geometric patterns—symbolizing protection, fertility, transformation, and harmony with nature. These motifs are not merely decorative; they embody communal identity and spiritual heritage, connecting artisans and wearers to ancestral traditions.

Expert interviews affirm this significance. A cultural heritage specialist noted the dragon symbolizes ancestral power and protection, while a jewelry designer emphasized the butterfly's association with transformation and artisan pride. A sustainability expert highlighted geometric motifs as aligning with ecological balance and sustainability values.

These insights underscore the cultural and emotional depth of Yao motifs, which enhance product authenticity, reinforce organizational identity, and foster employee engagement. See Appendix 2 for key quotes.

### 3.1.2. Expert insights reinforce motifs’ relevance in contemporary HR and organizational contexts

Expert interviews underscore the relevance of Yao motifs in contemporary organizational and HR practices. Jewelry designers noted that culturally significant motifs foster emotional engagement and organizational loyalty among employees. Cultural heritage experts emphasized their role in promoting intergenerational knowledge transfer and workplace cohesion. Sustainability specialists highlighted the alignment between cultural symbolism and environmental objectives, enhancing employee motivation and job satisfaction. Marketing professionals viewed motifs as tools for authentic brand storytelling that resonate internally and externally. Ethnologists affirmed their contribution to promoting equity, inclusivity, and organizational trust. Collectively, these insights position Yao motifs as strategic assets for enhancing identity, well-being, and engagement within culturally responsive HR frameworks.

### 3.2. Integration of cultural heritage in sustainable design

**Table 3** summarizes mean agreement scores on culturally significant design features and their associated human resource implications for workforce development, employee pride, and cultural competency.

**Table 3.** Yao cultural elements and their HR implications.

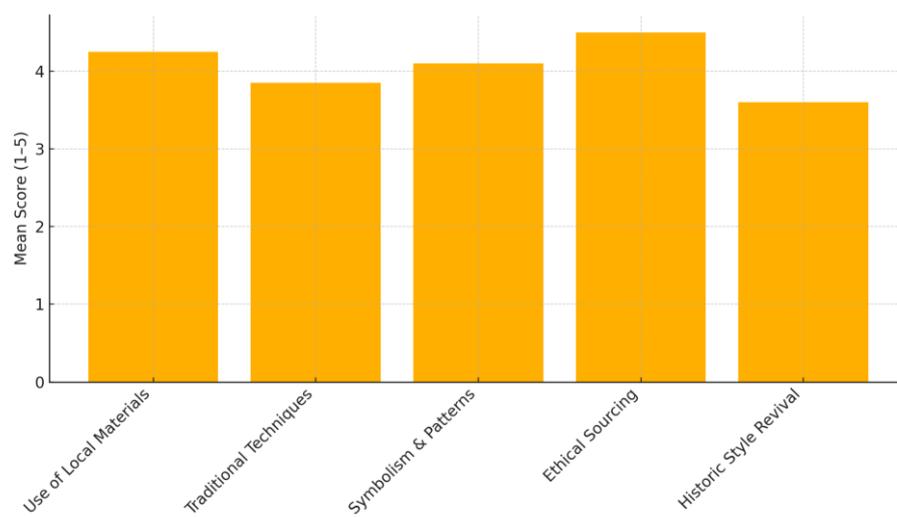
Cultural elements	Mean score	HR implications
Use of local materials	4.25	Local hiring & pride
Traditional techniques	3.85	Skill-building & transfer
Symbolism & patterns	4.10	Storytelling & identity
Ethical sourcing	4.50	Fair labor practices
Historic style revival	3.60	Innovation opportunity

**Table 3** summarizes survey findings on the integration of Yao cultural elements in sustainable jewelry and their implications for staff training, organizational identity, and teamwork. Consumers strongly favored local sourcing (M = 4.25), highlighting authenticity and community engagement, which support localized recruitment and employee pride. Traditional craftsmanship was well-supported (M = 3.85), reinforcing the value of artisanal skills and intergenerational knowledge transfer.

Symbolism and cultural patterns received high approval (M = 4.10), emphasizing the role of narrative in shaping business identity and cultural competency among staff. Ethical sourcing and fair-trade practices ranked highest (M = 4.50), aligning with HR policies focused on equity and enhancing employee commitment and satisfaction. In contrast, revived historical styles received mixed reactions (M = 3.60), suggesting potential for employee-led innovation and reinterpretation.

Overall, integrating Yao heritage enhances authenticity and consumer appeal while advancing internal culture and workforce development. **Figure 2** visualizes consumer support across cultural components, linking survey data to HR implications

in identity, engagement, and cohesion, offering practical suggestions to designers and HR professionals.



**Figure 2.** Consumer agreement with Yao cultural elements in design.

The following section explores how sustainability and circular economy principles support cultural integration, shaping corporate practices and enhancing employee engagement and organizational resilience.

### 3.3. Sustainability and circular economy principles in organizational practice

This section investigates the combined effects of sustainability and circular economy principles on employee engagement and consumer purchasing behavior, emphasizing their interrelated impact on internal culture and market dynamics.

**Table 4** presents the level of consumer agreement with sustainability-related design practices, along with the strategies for employee engagement, skill development, and innovation promotion that are included in HR policy.

**Table 4.** Circular economy practices and their HR implications.

Circular practice	Mean score	HR implications
Recycled materials	4.20	Green skills & innovation
Longevity & durability	4.00	Craftsmanship pride
Circular practices	3.75	Creative problem-solving
Design for disassembly	3.50	Future training needs
Consumer sustainability education	4.35	Alignment with brand values

Expert interviews revealed consensus on the cultural and strategic importance of incorporating Yao heritage and sustainability into jewelry design. Cultural experts emphasized the emotional and symbolic depth of Yao motifs, while HR professionals

underscored their ability to foster inclusivity, pride, and intergenerational knowledge transfer. Sustainability specialists noted that alignment with circular design principles boosts employee motivation and organizational trust. These findings reinforce the potential for culturally anchored, sustainable design to serve as a foundation for internal HR policy, training programs, and brand identity.

### **3.4. Sustainability practices: HR policy implications and organizational well-being**

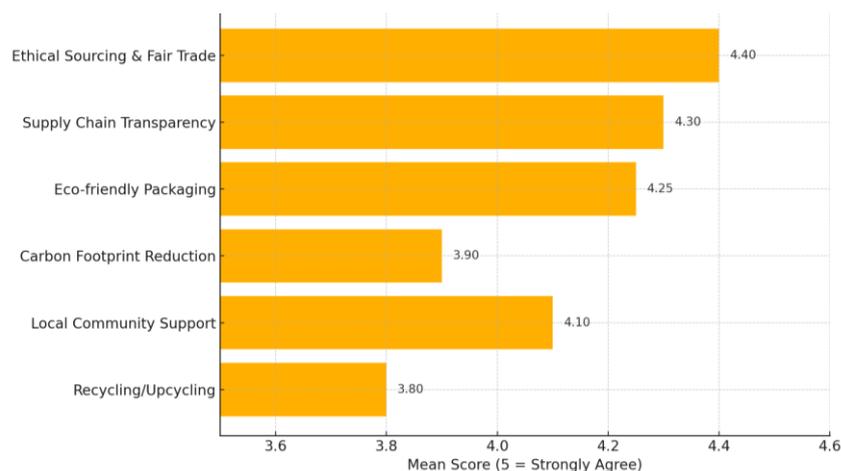
**Table 5** presents survey results highlighting consumer and employee support for sustainability practices in jewelry design, with direct implications for HR policy and organizational strategy.

**Table 5.** Consumer and employee behavior: Implications for HR policy and organizational well-being.

<b>Practice</b>	<b>Mean score</b>	<b>Agreement level</b>	<b>HR implications</b>
Ethical sourcing & fair trade	4.40	Strongly agree	Reinforces equity; enhances morale and organizational integrity.
Supply chain transparency	4.30	Strongly agree	Builds trust; supports clear internal policy.
Eco-friendly packaging	4.25	Strongly agree	Fosters employee pride in ethical branding.
Carbon footprint reduction	3.90	Agree	Motivates environmental goals; supports green HR initiatives.
Local community support	4.10	Agree	Strengthens community ties; promotes employee engagement.
Recycling/upcycling	3.80	Agree	Encourages innovation; enhances brand authenticity.

Ethical sourcing and transparency rank highest, reflecting stakeholder demand for fairness, trust, and responsible governance—core drivers of employee morale and HR legitimacy. Environmental practices such as eco-friendly packaging and carbon reduction align internal efforts with external brand values, supporting employee motivation and sustainability goals. Engagement in community initiatives and circular design reinforces social responsibility and fosters innovation.

**Figure 3** illustrates the alignment between sustainability practices and employee expectations, emphasizing their role in promoting workplace cohesion and organizational resilience. These insights underscore the imperative for integrated HR strategies that embed environmental ethics, cultural sensitivity, and employee empowerment. In conjunction with data from **Tables 3** and **4**, the findings validate that incorporating sustainability and cultural heritage into organizational practices strengthens brand authenticity, enhances employee engagement, and supports long-term human capital development. Future HR policies should prioritize equity, intergenerational knowledge transfer, and community integration to cultivate a purpose-driven, adaptable workforce.



**Figure 3.** Consumer and employee support for sustainability practices in jewelry design.

### 3.5. Highlights: Integrating Yao heritage and sustainability into HR strategy

The next sections explain these main ideas by (3.5.1.) showing how blending cultures strengthens the organization’s identity, (3.5.2.) looking at how Yao heritage and sustainability can be included in HR practices, and (3.5.3.) giving practical suggestions for putting policies into action.

#### 3.5.1. Cultural integration strengthens organizational identity

Integrating Yao motifs and cultural narratives strengthens brand storytelling and organizational identity, fostering employee pride and alignment with core values.

- Enhances engagement and well-being: Culturally grounded and sustainable practices improve psychological well-being, job satisfaction, and inclusivity.
- Promotes lifelong learning and knowledge transfer: Combining traditional craftsmanship with modern technologies supports continuous learning and intergenerational knowledge exchange, enhancing workforce adaptability.
- Advances ethical practices and equity: Ethical sourcing and cultural respect align with employee expectations, reinforcing trust, loyalty, and a positive organizational climate.
- Drives innovation and sustainability leadership: The fusion of heritage and circular design fosters innovation, strengthens employer branding, and appeals to purpose-driven talent and consumers.

#### 3.5.2. Cultural integration and organizational identity

Embedding Yao motifs enhances brand storytelling and strengthens organizational identity, deepening employee pride and emotional connection to corporate values.

- Employee engagement and well-being: Culturally meaningful and sustainable practices support psychological well-being, job satisfaction, and workplace inclusivity.
- Skill development and knowledge transfer: Merging traditional craftsmanship with modern technologies fosters lifelong learning and intergenerational skill exchange.

- Ethical standards and equity: Commitment to ethical sourcing and cultural respect aligns with employee expectations, promoting trust, loyalty, and organizational cohesion.
- Innovation and sustainability leadership: Integrating heritage with circular economy principles positions firms as leaders in sustainability, attracting talent and values-driven consumers.

This section demonstrates how cultural, and sustainability integration can inform values-based HR strategies that enhance employee engagement, organizational performance, and long-term impact.

### **3.5.3. Practical HR-focused recommendations**

To translate these findings into actionable strategies, the following HR interventions are proposed to embed cultural heritage and sustainability into workforce development and organizational culture:

- Integrate cultural training into HR development: Implement training programs focused on Yao motifs, symbolism, and craftsmanship to enhance cultural literacy, intergenerational knowledge transfer, and employee pride in organizational identity.
- Establish ethical sourcing and equity policies: Develop clear HR policies supporting ethical sourcing, fair labor, and community engagement. These reinforce organizational integrity, employee trust, and internal-external value alignment.
- Foster inclusive, cross-functional teams: Promote collaborative teams comprising artisans, designers, and marketing professionals to drive cultural authenticity, innovation, and inclusive engagement.
- Embed cultural narratives in communications: Leverage Yao cultural storytelling in internal HR materials and external branding to strengthen identity, deepen staff affiliation, and position employees as cultural ambassadors.
- Implement recognition mechanisms: Create reward systems that acknowledge contributions to culturally rich and sustainable designs, enhancing motivation and alignment with organizational values.
- Enhance well-being through purpose-driven roles: Design roles that embed cultural respect and environmental purpose, improving psychological well-being, reducing turnover, and increasing performance.
- Educate on supply chain transparency: Provide staff with training on sustainable and transparent supply chain practices, fostering accountability, trust, and ethical alignment.

Strategically implementing these HR measures strengthens employee engagement, reinforces brand identity, and aligns internal practices with cultural and sustainability values—enhancing organizational resilience and long-term competitiveness.

### **3.5.4. Ethical safeguards and avoiding cultural appropriation**

While integrating Yao cultural heritage into jewelry design offers cultural and economic benefits, ethical concerns regarding cultural appropriation must be critically addressed. The use of cultural elements without their originators' consent, recognition, or benefit constitutes appropriation. This study proposes an ethical framework

grounded in co-design, cultural authorship, and inclusive governance to mitigate such risks.

- **Participatory co-design:** All design processes involving Yao motifs were collaboratively developed with Yao artisans, ensuring cultural custodians retain creative agency and decision-making authority. This approach repositions heritage as an active, living asset within organizational identity.
- **Artisan leadership and benefit-sharing:** Yao community members serve as trainers, co-designers, and leaders. Revenue-sharing mechanisms and formal recognition of intellectual contributions support local empowerment and equitable value distribution.
- **Cultural sensitivity in HR training:** Employee development includes co-created cultural sensitivity modules to foster respect for Yao heritage and prevent misrepresentation.
- **Cultural IP protection:** Collective trademarks and geographic indications are pursued to attribute Yao designs to their rightful origin, enhancing cultural recognition in commercial settings.
- **Ethical oversight:** A dedicated review committee—including Yao representatives—guides design decisions and safeguards against misuse of sacred symbols or cultural commodification.

This framework asserts that the true value of cultural heritage lies not merely in its aesthetic form but in ethically grounded, co-owned practices that sustain it. Embedding these safeguards ensures cultural inclusion functions as a vehicle for empowerment rather than exploitation.

#### **4. Discussion**

The convergence of sustainability and cultural heritage has become increasingly central to the jewelry industry as consumers grow more conscious of the social and environmental impacts of their purchases. Once niche, sustainability is now a mainstream expectation, driving a shift from traditional mining to responsible practices such as recycling, upcycling, and bio-based material use (Geissdoerfer et al., 2017; Velenturf & Purnell, 2021). This change follows the ideas of a circular economy, which aims to recover materials, make products last longer, and use resources more efficiently to reduce environmental damage. Integrating cultural heritage—particularly from groups like the Yao—offers a unique opportunity to blend ecological responsibility with cultural authenticity, enhancing both product value and emotional significance (Li & Manan, 2024; Zhang, 2022).

The Yao ethnic group's rich heritage of silverwork and symbolic motifs provides a valuable foundation for contemporary jewelry design. Elements such as embroidered patterns and nature-inspired emblems are deeply embedded in Yao identity, imparting emotional and cultural depth to the jewelry (He & Wang, 2017; Sin-wai, 2020). However, incorporating these elements demands careful consideration to avoid cultural appropriation or misrepresentation. As Brandão et al. (2021) and Güneş et al. (2024) note, while cultural motifs enhance emotional resonance, their use must be ethically grounded to prevent commodification and safeguard cultural authenticity.

The integration of circular materials in jewelry design poses both technical and perceptual challenges alongside cultural considerations. While recycled silver and synthetic gemstones are gaining acceptance among environmentally conscious consumers (Ali et al., 2023; Shao & Ünal, 2019), concerns remain about their quality and aesthetic appeal. However, consumer willingness to support sustainably sourced jewelry increases with transparent sourcing practices (Keller-Aviram, 2021). Merging these materials with culturally significant elements from Yao heritage supports both environmental sustainability and cultural preservation.

This research highlights critical implications for corporate management and HR practices. Integrating cultural heritage and sustainability in design addresses environmental and social challenges while strengthening brand identity and employee engagement. Employees involved in culturally and sustainably focused design report greater pride, purpose, and emotional connection to their work. Expert interviews reveal that authentic inclusion of cultural themes fosters inclusive workplace cultures, promotes equity, and enhances psychological well-being, ultimately improving job satisfaction.

Consumers increasingly favor jewelry that embodies ecological sustainability and cultural narratives. Yao-inspired designs exemplify how cultural authenticity enhances market appeal and justifies premium pricing (Zeng & Kim, 2025; Wong & Cheng, 2014). Products with strong cultural significance are linked to higher perceived value and emotional consumer engagement (Lin & Wang, 2012). This study confirms that integrating Yao cultural elements with sustainable practices strengthens both market competitiveness and internal organizational cohesion.

People respond favorably to the integration of traditional Yao techniques with modern technologies like 3D printing and laser engraving (Zhang & Yang, 2024). It supports intergenerational knowledge transfer and continuous learning, aligning with human capital development and workforce sustainability. This approach enables adaptive training while preserving cultural heritage.

Despite concerns over quality and the lack of formal certification for sustainable materials, younger consumers show a strong willingness to invest in jewelry reflecting environmental and social values (Marsh et al., 2022). This highlights the need for transparent communication and corporate policies that emphasize ethical sourcing and cultural sensitivity, which are essential for enhancing employee trust and maintaining brand integrity.

The findings offer critical insights for jewelry designers, corporate leaders, and HR professionals. Understanding the intersection of cultural authenticity and sustainability is vital for developing designs and strategies that resonate with eco-conscious, culturally aware consumers. Integrating Yao ethnic elements enables the creation of distinctive products while advancing HR objectives related to inclusivity, employee engagement, and organizational identity.

To embed cultural and sustainability values into HR policy, organizations can implement strategies such as artisan-led training programs, where skilled Yao craftspeople mentor employees in traditional techniques—promoting intergenerational knowledge transfer and cultural respect. HR departments may incorporate cultural onboarding modules, introducing Yao symbolism and design ethics into orientation processes. Recognition systems can also reward employees

whose innovations align with sustainability and cultural authenticity. Southeast Asian cooperative case studies cooperatives show enhanced employee engagement when artisans are treated as mentors and co-designers. Similarly, brands like Maiyet and Nest have effectively integrated ethical craft into talent development through partnerships with local artisans and co-created narratives. These strategies foster inclusion, motivation, and employee pride while aligning HR practices with broader cultural and environmental values.

In conclusion, integrating cultural heritage and sustainability into jewelry design is both necessary and practical for addressing contemporary consumer expectations and advancing workforce development. This approach enables firms to deliver culturally meaningful, ecologically responsible products aligned with consumer values while simultaneously strengthening organizational culture, enhancing employee well-being, and ensuring long-term human capital sustainability.

## **5. Conclusion**

This study examined the incorporation of Yao cultural heritage and sustainable practices in jewelry design, specifically their effects on human resource planning, organizational management, and employee engagement. The findings, derived from a mixed-methods approach that includes expert interviews and consumer surveys, indicate that cultural authenticity—represented by traditional Yao motifs and design narratives—enhances market appeal and bolsters employees' sense of identity and organizational pride. This cultural connection enhances commitment, emotional engagement, and job happiness.

The implementation of circular economy principles, including the utilization of recycled and upcycled materials, enhanced employee motivation and performance by cultivating a sense of ethical purpose and alignment with business values. Employee engagement increased when sustainability initiatives were associated with heritage conservation and environmental stewardship.

The research indicates that culturally rooted sustainability initiatives enhance workforce morale by fostering significant relationships among employees, products, and consumers. These findings underscore the importance of integrating culturally aware and sustainability-focused human resource strategies—such as cultural competency training, inclusive design engagement, and value-driven management—as mechanisms for enhancing human capital.

In conclusion, the amalgamation of Yao cultural heritage and circular design concepts provides a strategic framework for sustainable human resource management within the creative sectors. It brings attention to cultural identity as a type of human capital that can bolster organizational resilience, employee well-being, and sustained workforce engagement.

Constraints persist, notably the reliance on convenience sampling and the subjective analysis of cultural components. Future study should implement more diversified sample techniques and engage Yao community stakeholders through participatory methods to guarantee methodological rigor and cultural authenticity.

**Author contributions:** Author contributions: Conceptualization, DC and VR;

methodology, DC and VR; software, DC; validation, DC and VR; formal analysis, DC; investigation, DC; resources, VR; data curation, DC; writing—original draft preparation, DC; writing—review and editing, DC and VR; visualization, DC; supervision, VR; project administration, DC; funding acquisition, DC. Both authors have read and agreed to the published version of the manuscript.

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## **Appendix A**

### **Survey questionnaire contents**

The following questionnaire was designed to assess consumer perceptions, preferences, and awareness regarding culturally integrated and sustainable jewelry, as well as their indirect implications for employee job satisfaction, organizational culture, and brand alignment. The survey was distributed online to 240 respondents via email and social media platforms.

#### **Section 1: Demographic information**

- Age
- Gender
- Occupation
- Education level
- Geographic location
- Experience purchasing jewelry (e.g., frequent buyer, occasional, rarely)

#### **Section 2: Perceptions of cultural integration in jewelry design**

- How important is cultural authenticity in jewelry design to you? (Likert-scale: 1 = Not important, 5 = Very important)
- Which cultural elements appeal to you most? (Multiple choice: motifs, traditional craftsmanship, symbolism, materials, other)
- Do you believe cultural stories enhance the value of jewelry products? (Yes/No/Unsure)
- Please describe what cultural authenticity means to you in your own words. (Open-ended)

#### **Section 3: Attitudes toward sustainability and circular economy**

- How important is sustainability when choosing jewelry? (Likert-scale: 1–5)
- Which sustainable practices are most important to you? (Multiple choice: recycled materials, ethical sourcing, eco-friendly packaging, durability, reparability)
- Would you pay a premium for jewelry made with sustainable materials? (Yes/No/Depends)
- What concerns do you have about jewelry made from recycled or upcycled materials? (Open-ended)

#### **Section 4: Influence on organizational culture and brand perception**

- Do you associate sustainable and culturally integrated jewelry with higher brand trust? (Likert-scale: 1–5)
- How likely are you to feel positively toward brands that support local communities and artisans? (Likert-scale: 1–5)
- Do you believe employees working for culturally authentic and sustainable brands feel more motivated and proud? (Yes/No/Unsure)
- In your opinion, what values should brands prioritize to foster employee satisfaction? (Open-ended)

#### **Section 5: Purchase intent and behavioral intentions**

- How likely are you to purchase jewelry that integrates cultural motifs and uses sustainable practices? (Likert-scale: 1–5)
- How often do you research the background or sourcing of jewelry before buying? (Multiple choice: Always, Often, Sometimes, Rarely, Never)
- Would you recommend culturally integrated and sustainable jewelry to others? (Yes/No)
- Please describe what would motivate you most to support such products. (Open-ended)

## **Appendix B**

### **Key quotes from expert interviews**

This appendix summarizes key direct quotes from expert interviews supporting the integration of Yao cultural motifs into sustainable jewelry design and their implications for human resource management and organizational development.

#### **Jewelry designer**

“When employees handle culturally meaningful motifs, they internalize the story behind them. This connection fosters stronger pride and loyalty to the organization.”

#### **Cultural heritage expert**

“Embedding authentic motifs opens up learning opportunities for staff and ensures cultural transmission across generations within the workplace.”

#### **Sustainability specialist**

“When employees see that their work supports cultural preservation and environmental goals simultaneously, it strengthens their psychological commitment and overall job satisfaction.”

#### **Marketing professional**

“Motifs like these tell a story that resonates externally with consumers and internally with employees. It helps build an authentic brand that employees are proud to represent.”

#### **Ethnologist**

“Respectful use of cultural symbols reinforces organizational values around fairness and inclusivity, which are critical to employee well-being and trust.”