

# REVITALIZING CULTURAL LEGACY THROUGH BRANDING AND TECHNOLOGY: A CONSUMER BEHAVIOR STUDY OF THE MALAYSIAN PEWTER HERITAGE INDUSTRY

WANG YIMENG<sup>1</sup>, SIEW POH PHUNG<sup>2</sup> and FRAH RUKHSAR KHAN<sup>3</sup>

<sup>1,2,3</sup>Limkokwing Graduate School, Limkokwing University of Creative Technology, Cyberjaya, Malaysia.  
Email: <sup>2</sup>fancykatherine.k@gmail.com

## Abstract

This article investigates the impact of perceived value, perceived usefulness, and perceived ease of use on customer purchasing behavior in Malaysia's pewter heritage business, using branding as a mediating factor and technology as a moderator. This study looks at how cultural and emotional elements interact with digital adaptation, using recognized theoretical frameworks like the Technology Acceptance Model, Perceived Value Theory, and Aaker and Keller's Branding Model. Based on an examination of the industry's progress, problems, and marketing tactics, the study reveals crucial gaps and potential for long-term success through effective branding and technological integration. The findings help to further theoretical research and practical applications in heritage branding and consumer behavior, notably in tourism-related sectors.

**Keywords:** Pewter Heritage, Perceived Value, Branding, Consumer Behavior, Malaysia, Technology Acceptance Model.

## 1. BACKGROUND OF INDUSTRY

The tin and bronze heritage industry in Malaysia is a unique and strategically significant intersection between cultural heritage and modern business needs (Hu et al., 2023; Shariff et al., 2019). This century-old industry represents a broader identity for Malaysia as an international metropolis, valuing craftsmanship, cultural integration, and tangible heritage. Pewter products, with the globally renowned Royal Selangor being the most prominent, serve as both a tangible monument to the nation's history and a vehicle for showcasing soft power through cultural brand building and historical diplomacy. Royal Selangor has particularly become a model for transforming ancient craftsmanship into a modern cultural enterprise, utilizing strategic storytelling, brand innovation, and adaptive (Leigh, 2002; Yong, 2024). Its success exemplifies how localized artisanal knowledge can be combined with historical authenticity to create multinational brand equity. This trend aligns with the broader theoretical framework of heritage commodification and postcolonial brand building, in which national identity is mediated through the aestheticized cultural output aimed at both domestic and international markets.

However, influenced by multiple factors, the tinware industry is currently undergoing a significant transformation. With the generational shift in taste, the rise of experiential consumption demands, and the enhancement of ethical awareness, consumer behavior has also changed, prompting a re-examination of product strategies and cultural expressions (Batat, 2011; Doulkaid & Berbou, 2016). The digitalization of cultural consumption, including the rise

of e-commerce platforms and social media marketing, has disrupted traditional retail models and enhanced global competitiveness, especially in the fields of cultural tourism and the creative industry (Li, 2024). At the same time, the influx of mass-produced "traditional style" goods has intensified people's emphasis on preserving the authenticity and cultural value of local tinware.

In this constantly changing situation, the sustainable development of Malaysia's tin and pewter industry not only depends on the inheritance of traditional craftsmanship but also the integration of tradition and innovation, responding to digital consumer culture, and engaging in cross-cultural dialogue. The challenge lies in how to maintain a balance between economic vitality and the integrity of cultural expression in a globalized and commodified environment.

## 2. LITERATURE REVIEW AND THEORETICAL FOUNDATION

Consumer behavior in the cultural heritage and historical craftsmanship industry is influenced by a series of interrelated psychological, cultural, and environmental determinants, which make it distinctly different from traditional product markets (Ribeiro et al., 2021). Unlike practical or mass-produced goods, cultural heritage items like pewter often carry profound symbolic meanings and emotional associations that go beyond their functional uses. In Malaysia, the tin and tin alloy industry—especially its cultural heritage passed down through pewter craftsmanship—provides a rich platform for exploring these consumer dynamics.

This study adopts a multidisciplinary theoretical framework to explore the driving factors behind the evolution of consumer engagement in this field, integrating the theory of perceived value, the Technology Acceptance Model (TAM), and the Aaker-Keller brand equity model. These frameworks together form a comprehensive perspective, exploring the intrinsic and extrinsic motivations that shape consumer behavior in the field of traditional crafts.

First, the theory of perceived value posits that consumer decision-making involves a cognitive trade-off between perceived benefits and perceived costs (Dodds, 1996; Fehrenbach & Herrando, 2021). In the case of cultural products, this consideration goes beyond economic value, encompassing emotional resonance, symbolic significance, aesthetic satisfaction, and experiential richness. In the field of traditional crafts, perceived value often reflects intangible qualities such as authenticity, nostalgia, and the transmission of exquisite craftsmanship (Kalman, 2009). Therefore, marketers and producers in the tin industry must carefully design value propositions that not only emphasize material quality but also highlight. Secondly, as digital technology increasingly becomes an intermediary in the consumption of cultural heritage, the Technology Acceptance Model (TAM) has become crucial in evaluating how consumers interact with digital cultural heritage experiences—such as virtual museum tours, augmented reality interfaces for product customization, or online cultural heritage storytelling platforms (Hammady et al., 2020). TAM posits that perceived ease of use and perceived usefulness influence users' acceptance of new technology (Karahanna & Straub, 1998). In the tin-lead field, young and tech-savvy consumers may be more inclined to interact with brands that use immersive digital platforms to convey cultural values and craftsmanship heritage, thereby enriching their purchasing experience. Finally, the Aaker-Keller brand equity model

helps to understand how traditional brands with a long history, like Royal Selangor, accumulate consumer loyalty and symbolic capital. Key brand dimensions such as brand awareness, perceived quality, brand associations, and brand loyalty are particularly important in the realm of historical heritage, as historical legacy, reputation, and perceived authenticity serve as signals of trust. Combining traditional brands with modern design aesthetics and international positioning strategies enables the brand to achieve global relevance while maintaining cultural specificity (AR et al., 2023).

In summary, this theoretical triangular argument emphasizes that traditional craft producers need to adopt a hybrid model, respecting cultural traditions while embracing innovations in branding, technology, and consumer participation. Therefore, in an era of rapid cultural and market transformation, the dynamic interaction between symbolic consumption, technological mediation, and brand equity is crucial for understanding and maintaining consumer interest in Malaysia's traditional tin and bronze industries.

Although the Technology Acceptance Model (TAM) has traditionally been applied in information systems research to understand user adoption of new technologies, when its conceptual tools are transferred to the field of cultural consumption, especially in the context of digital heritage experiences, its conceptual tools provide considerable explanatory power (Chen & Chen, 2024; Man & Gao, 2022). In traditional industries like the tin industry in Malaysia, digital engagement is no longer secondary; on the contrary, it is becoming increasingly important in consumer-brand interactions. Through platforms such as virtual showrooms, e-commerce interfaces, mobile heritage apps, and augmented reality (AR) experiences, consumers can interact with tin and lead products in novel ways, not just in their physical form.

In this digital environment, perceived usefulness and perceived ease of use (the two core variables of the TAM framework) have become key predictive indicators of consumer engagement behavior. For example, consumers who engage with pewter through immersive AR technology or explore Royal Selangor's collection via an interactive online catalog are more likely to perceive such interactions as intuitive and enriching, thereby increasing their likelihood of sustained digital engagement. This, in turn, enhances brand interaction and contributes to higher levels of emotional and cognitive engagement with traditional brands. The higher the level of digitalization, the more likely consumers' evaluations will depend on how effectively the digital interface conveys practicality (information depth, transaction convenience) and experiential resonance (aesthetic appeal, narrative immersion) (Hargadon, n.d.). At the same time, brand building acts as an intermediary structure, linking perceived technological involvement with long-term consumer outcomes such as loyalty, trust, and purchasing behavior. In this regard, the Aaker-Keller brand equity framework provides a key theoretical framework for understanding how traditional brands cultivate symbolic and emotional capital. According to Aaker and Keller, brand equity includes dimensions such as brand awareness, perceived quality, brand associations, and brand loyalty, all of which can be amplified or diminished through consumers' digital experiences with the brand (Wang et al., n.d.).

In traditional industries, especially those based on material culture and historical craftsmanship, strong brand assets enable companies to position themselves as guardians of tradition and identity, thereby transcending the limitations of physical (Backlund & Lindberg, 2014). This is particularly evident in the case of Royal Selangor, which successfully integrates elements of national pride, craftsmanship mastery, and design innovation, creating a brand narrative that resonates across cultural and generational boundaries. Royal Selangor, while adapting to the demands of digital and global markets, has retained the aura of tradition, embodying the strategic balance needed in the modern cultural economy.

Importantly, this dual theoretical perspective—combining TAM with the Aaker-Keller brand model—reveals that the digital transformation of traditional industries is not merely a technological transformation, but a cultural and semiotic transformation. Technology serves not only as a transmission system but also as an intermediary of meaning, authenticity, and emotional resonance (Jin et al., 2020). Therefore, understanding consumer engagement in this field not only requires usability research but also a comprehensive inquiry into how cultural values is mediated, experienced, and reinterpreted digitally.

The COVID-19 pandemic has conducted a profound stress test on globally heritage-based industries, and Malaysia's tin industry is no exception. The sudden disruption of international tourism (traditionally a key factor driving the consumption of heritage products), coupled with the reduction of offline retail experiences, has exposed the industries deeply rooted structural weaknesses. Businesses that have long relied on the sensory, experiential, and narrative dimensions of tin products now face the challenge of transforming these qualities into a digital environment. While some companies have turned to e-commerce platforms. This disruptive change highlights the key role of perceived ease of use and perceived usefulness in influencing consumers' acceptance of digital interfaces in the cultural heritage sector, as outlined by the Technology Acceptance Model (TAM). In the context of digital branding, when the product itself is rooted in tactile and handcrafted craftsmanship, these factors become even more prominent. The appeal of pewter largely stems from its material aesthetics, weight, temperature, and fine surface details, which pose unique challenges for digitization. Therefore, during the pandemic, consumer interactions with digital platforms not only depended on transaction efficiency but also on whether the platform could evoke similar sensory and emotional resonance (Lilleng & Baggerud, 2006).

At the same time, brands have become a key strategic asset during this period of uncertainty. According to Aaker and Keller's brand equity model, a strong brand can provide consumers with psychological assurance, trust, and emotional continuity—qualities that are particularly important during times of crisis (He & Ran, 2015). In the tin-lead industry, effective brand building during the pandemic not only concerns maintaining sales but also preserving cultural legitimacy and a sense of identity in the face of survival threats to traditional industries. Despite facing numerous challenges, the pandemic has accelerated innovation, opening new digital avenues for consumer interaction and market expansion (Giordani & Rullani, 2020). Tin and lead manufacturers have begun experimenting with a range of digital tools, including virtual showrooms, AI customer service robots, immersive video storytelling, and even gamified

educational platforms tracing the historical evolution of tin craftsmanship. These technologies are not merely replicating the physical shopping experience; they are actively enhancing the symbolism of traditional products by strengthening brand narratives and promoting consumer co-creation.

For example, interactive digital modules allow users to customize tin-lead patterns, engrave personal information, or interact with historical archives, thereby fostering deeper emotional engagement and a sense of ownership. These strategies align with the contemporary trend of participatory consumption, where value is not only accepted but co-created. By providing users with the opportunity to become narrators and designers within the brand ecosystem, cultural heritage companies can build emotional loyalty and enhance symbolic capital (Shaw et al., 2021).

In summary, the digital transformation of the tin-lead industry post-pandemic indicates the need for a comprehensive approach that combines technological adaptability with cultural sensitivity. The industry's future sustainability may depend on its ability to reshape digitalization, no longer viewing it as a substitute for material authenticity, but rather as a medium for new narratives, experiences, and consumer intimacy.

### 3. RESEARCH METHODS

Although this study is primarily conceptual, the theoretical propositions presented in this paper require rigorous empirical validation to determine the strength and direction of the hypothesized relationships between perceived value, brand equity, technological mediation, and consumer purchase intention in traditional product consumption. Future research should adopt robust quantitative methods to examine these interrelationships within a structured framework. Structural Equation Modeling (SEM) and Partial Least Squares (PLS) path modeling are particularly suitable for this purpose, as they can simultaneously assess multiple latent structures and their interdependencies, including mediation and moderation effects.

The measurement tools should be derived from established and validated scales in the literature on consumer behavior and technology acceptance. For example, concepts such as perceived usefulness and perceived ease of use can be operationalized using items adapted from the original Technology Acceptance Model (Davis, 1989); while brand equity can be measured through a multidimensional scale reflecting brand awareness, perceived quality, brand associations, and loyalty, as proposed by Aaker (1996) and Keller (1993). Perceived value can be broken down into functional, emotional, social, and symbolic components, thereby capturing the multidimensional motivations behind traditional product engagement (Chen & Chi, 2018). Empirical data collection should be strategically located at cultural heritage destinations with high foot traffic, such as the Royal Selangor Visitor Centre in Kuala Lumpur, which attracts a diverse group of visitors from both domestic and international backgrounds. A cross-national sampling strategy—targeting tourists from different cultural and regional backgrounds—will enhance the external validity and generalizability of the research findings. This approach can also explore cultural differences in the evaluation and acceptance of Malaysian traditional crafts, thereby adding an important cross-cultural dimension to the study.



To go beyond simple correlation analysis, future research should explore the interaction effects within the proposed model. For example, brand equity can be tested as a mediating variable between perceived ease of use/practicality of technology and purchase intention, suggesting that strong brand associations might bridge the digital experience gap in product categories that are rich in tactile elements and cultural heritage (Civelek & Ertemel, 2020). Similarly, the degree of digital interaction (through mechanisms such as virtual customization, immersive storytelling, or augmented reality (AR)-based product exploration) can serve as a moderating variable, influencing the strength of the association between perceived value and purchase intention. These interaction terms will help to better understand how technology functions.

Furthermore, adopting a mixed-methods research design can provide a more comprehensive understanding of the interaction between consumers and cultural heritage products. Quantitative analysis based on Structural Equation Modeling (SEM) or Partial Least Squares (PLS) can verify the causal paths of hypotheses, estimate effect sizes, and test the statistical significance of the proposed mechanisms. In addition, qualitative methods such as in-depth interviews, ethnographic observations, and focus group discussions can provide rich, contextual insights into the emotional, symbolic, and identity-related dimensions of consumption. These qualitative data are particularly important for interpreting how consumers perceive concepts such as authenticity, craftsmanship, and ethnic identity when engaging with Malaysian tin products.

In summary, a diversified methodological research strategy that combines the rigor of quantitative research with the depth of qualitative research can effectively capture all factors influencing consumer behavior in the field of digital heritage products. This approach not only enhances the validity of the theory but also provides practical insights for heritage marketers, policymakers, and cultural practitioners seeking to maintain the development of traditional industries in the contemporary global market.

#### **4. CONSUMER BEHAVIOUR PERSPECTIVES ON MARKETING AND BRANDING IN PEWTER HERITAGE INDUSTRY**

Placing Malaysia's tin-lead industry within a broader comparative framework of successful cultural brand-building initiatives across Asia can reveal important insights into its best practices, strategic positioning, and the institutional conditions necessary to maintain international influence. Using benchmarks such as Japan's Kutani porcelain and South Korea's Hanji paper industry, valuable analytical perspectives are provided for assessing the development trajectory and brand potential of Malaysia's traditional craft industry. In the cases of Kutani ware and Hanji paper, the unique fusion of traditional craftsmanship knowledge and contemporary design concepts has allowed these industries to transcend their local cultural roles and successfully penetrate the global market. Crucially, these transformations are not purely natural developments but are supported by active national intervention and strategic cultural policies. The government's support, in the form of cultural export subsidies, participation in international heritage exhibitions, and investment in digital narrative infrastructure, has played a key role in elevating these industries from local handicrafts to

international (Kim, n.d.; Montanari et al., 2024).

For example, the Kutani Porcelain Company in Japan has implemented a collaboration strategy, partnering with contemporary visual artists and designers to launch limited edition series aimed at attracting young consumers, especially millennials and Generation Z. These series typically feature playful interpretations of traditional patterns, minimalist packaging, and the integration of digital content to narrate the cultural heritage of the products, thereby enhancing consumers' perceived aesthetic value and emotional attachment to the products (Huynh et al., 2010). In this way, traditional ceramics are no longer relics of the past, but rather items that are closely related to modern consumer culture, have collectible value, and hold cultural significance. Similarly, the Korean Hanji industry has achieved strategic revitalization through cross-disciplinary innovation. By integrating Hanji into fashion design, modern home decor, and even skincare packaging, producers have redefined this material from a historical medium to a multifunctional cultural commodity (Shim & Kim, 2006). Heritage preservation grants and targeted branding campaigns further enhanced these efforts, shaping Hanji into an image that is both ecologically sustainable and deeply rooted in Korean cultural identity. As a result, Hanji's dual value proposition—environmental relevance and national pride.

The commonality among these case studies lies in the central role of narrative branding. These industries do not merely sell tangible products; they also sell stories—stories about craftsmanship, cultural heritage, regional identity, and innovations rooted in tradition. This rich narrative is crucial for cultivating symbolic capital and distinguishing traditional products from mass-produced counterparts. By employing digital platforms (such as interactive websites, short films, or augmented reality museum exhibitions) for storytelling, products can be embedded within broader cultural and emotional frameworks, thereby enhancing consumer engagement. For Malaysian tin producers, especially market leaders like Royal Selangor, these comparative cases present some viable strategies:

**Collaborative design innovation** -Strategic collaborations between tin-lead manufacturers and contemporary artists, industrial designers, and interdisciplinary creatives can serve as a significant catalyst for aesthetic transformation (Zulaikha & Brereton, 2011). Such collaborations can reinterpret traditional tin-lead products through the lens of modern design concepts, ensuring their relevance to younger and more discerning consumer groups. For example, limited edition collections developed in partnership with urban designers or fashion brands can attract millennial and Gen Z audiences, who typically value cultural authenticity, minimalist design, and sustainability (Yang, 2010). This collaborative approach not only enriches the product line but also showcases the brand's vitality and cultural responsiveness. Integrating design thinking into the development of tin-lead products can enhance their functional appeal and symbolic significance, thereby repositioning tin.

**Enhancing narrative through cultural branding** - Embracing the theories of symbolic consumption and experiential marketing, brand narratives must transcend material characteristics and integrate Malaysia's rich multicultural context, colonial trade heritage, and craftsmanship legacy. The captivating narrative framework should weave together elements such as the history of tin mining, the evolution of tin and pewter crafts among different ethnic

groups (Malays, Chinese, Indians, and indigenous peoples), and Malaysia's role in historical trade networks like the Strait of Malacca. These stories should be embedded in product packaging, digital content, and retail environments, offering consumers not just a brand.

**Policy Integration and Institutional Support** - Effective revitalization requires strong institutional support. Government agencies—especially the Ministry of Culture, the Tourism Board, and the Trade Commission—must coordinate to provide targeted support across the entire value chain (Zubair, n.d.). This could include offering export tax incentives for small and medium-sized enterprises in the cultural heritage sector, providing subsidies for participation in international cultural heritage festivals (such as UNESCO Creative Cities events or Milan Design Week), and establishing cross-departmental branding committees to oversee a cohesive national narrative (Hill et al., n.d.). Additionally, cultural heritage crafts should be institutionalized and incorporated into educational curricula and vocational training.

**Cross-media engagement and technological immersion** - In the era of digital convergence, effective brand communication requires a cross-media strategy. Tin and lead alloy manufacturers should adopt cross-platform interactive approaches, leveraging various digital tools to build an immersive brand ecosystem. Augmented reality (AR) features (such as product visualization, historical reenactments, or interactive tutorials) can be integrated into mobile applications or retail displays. Documentaries showcasing handmade crafts can be spread through YouTube, TikTok, and Instagram, making the brand more relatable and educating the audience (Nikhashemi et al., 2021). E-commerce portals can incorporate personalization technologies, including engraving simulations or virtual product customization. These tools not only enhance usability but also deepen narrative engagement, fostering a participatory consumer culture around traditional products.

Ultimately, the comparative benchmark of Malaysia's tin-lead industry with successful Asian cultural brand models not only provides an innovative roadmap but also offers a framework that positions cultural heritage as dynamic cultural capital in the global creative economy, rather than static tradition.

To ensure the long-term sustainability and global competitiveness of Malaysia's tin-lead heritage industry, a multi-dimensional strategy must be adopted, integrating institutional support, brand innovation, and cultural storytelling. A promising approach is to seek Geographical Indication (GI) status for Selangor's tin and pewter, as Selangor has long been synonymous with Malaysia's exceptional craftsmanship in tinware. GI certification is not only a legal tool for intellectual property protection but also a powerful cultural signal that can verify the product's origin, emphasize its historical characteristics, and reinforce its uniqueness in the global market (Meena et al., 2022). Similar successful cases include French Champagne, Italian Parmigiano-Reggiano cheese, and Indian Darjeeling tea, all of which leverage GI branding to solidify their reputation and justify high prices through origin-based differentiation.

In addition to legal certification, Malaysian tin and tin alloy manufacturers should actively establish partnerships with academic institutions, national design institutes, and multimedia content creators. These collaborations can become key nodes for enhancing product aesthetics,



deepening narrative coherence, and strengthening brand resonance. Universities can contribute through ethnographic research and design innovation; the National Craft Council can support the compilation of traditional crafts; and digital content creators can help transform intangible cultural heritage into visually captivating, consumer-oriented media. By strategically integrating storytelling with product design through historical symbolism (Thwaites et al., 2019).

A sound policy ecosystem is equally indispensable. Malaysia's cultural departments, tourism boards, and economic development agencies must adopt a coordinated approach to policy formulation, resource allocation, and stakeholder engagement (Ismail et al., 2025). The government's main interventions should include:

**Cultural and export subsidies** - One of the most direct and effective interventions is to provide targeted financial support to small and medium-sized enterprises in the cultural heritage sector. Cultural subsidies—focusing on creative experimentation, product innovation, and cultural heritage education—can inspire craftsmanship excellence and support high-quality, culturally significant production (Luo et al., 2016). On the other hand, export subsidies lower the barriers for small and medium-sized enterprises in the cultural heritage sector to enter international markets by offsetting the costs of logistics, trade show participation, and overseas promotional activities (Czinkota, 2002). Such subsidies not only promote market expansion but also enhance national soft.

**Curriculum Integration and Educational Reform** - The long-term sustainability of the tin-lead craft tradition depends on cultivating cultural literacy and interest in craftsmanship among the younger generation. Incorporating tin-lead metallurgy and broader themes of material heritage into school and university curricula is crucial for fostering early awareness of Malaysia's tangible cultural assets among students. This integration should not be limited to history or art courses but should extend to interdisciplinary fields such as design education, entrepreneurship training, and materials science. Furthermore, collaboration between educational institutions and cultural heritage companies (such as internships, apprenticeship programs, and maker labs) can provide.

**Development of Digital Infrastructure** - In the digital age, the accessibility and appeal of cultural heritage are increasingly enhanced through virtual platforms. To boost the visibility and market access of cultural heritage, the government should invest in building a national digital cultural portal—a comprehensive online ecosystem showcasing selected traditional crafts, including tin and pewter. These portals can feature high-resolution 3D visualizations of artifacts, augmented reality (AR) try-on tools (providing personalized shopping experiences), and immersive virtual galleries that place products within Malaysia's historical and multicultural narratives. Additionally, creating a culture-centric e-commerce platform (potentially through public-private partnerships) can provide artisans with a unified digital marketplace while ensuring authenticity verification and fair pricing. Such infrastructure not only expands the global influence (Huang et al., 2024).

Experiential tourism bundles - The tourism industry remains one of the most effective channels for promoting cultural products to international audiences. However, the success of cultural tourism depends on whether it can move beyond passive consumption to experiential participation. A coordinated policy mechanism should be established to encourage collaboration between cultural heritage producers and tourism operators to jointly design immersive, culture-centered travel packages (Jamal et al., 2011). For example, the itinerary at the Royal Selangor Visitor Centre can be bundled with pewter-making workshops, digital storytelling stations, and thoughtfully curated gift experiences, allowing visitors to resonate emotionally and intellectually with pewter craftsmanship. Public-private partnerships (PPP) provide a complementary mechanism that combines business incentives with cultural preservation. Hotel enterprises, including luxury hotels, cruise lines, and airlines, can serve as distribution points for selected tin-lead treasures, enhancing product visibility and integrating them into the national tourism narrative. Joint branding collaborations between tourism boards and tin-lead manufacturers can develop exclusive "cultural heritage souvenir collections," combining cultural education with tangible experiences. These initiatives not only create additional revenue streams but also transform cultural heritage products into tools of national soft power.

## 5. CONSLUSION

It is crucial that the symbolic meaning of pewter becomes the core of all brand and product strategies. For international consumers, the act of purchasing pewter products transcends transactional value, becoming a culturally learned ritual—anchoring memories, places, and identity in a portable, tangible item. For domestic consumers, pewter often symbolizes intergenerational heritage, national pride, and inclusivity. Therefore, cultural heritage brands should be reconstructed from the perspective of semiotic richness, utilizing visual, linguistic, and material cues (Papadaki, 2023). To enhance the brand value and cultural symbolism of Malaysian tin products in the global cultural industry, a comprehensive strategic system integrating multicultural design language, personalized technology, and digital narrative mechanisms should be constructed. First, the design level should actively reflect the multi-ethnic cultural characteristics of Malaysia and achieve the "cultural co-construction" of visual language by embedding Islamic vine patterns, Chinese calligraphy elements, Indian mandala graphics, and aboriginal geometric totems into the product line. This kind of aesthetic blending not only strengthens the cultural connotation of the product but also enhances its cultural resonance with consumers of different ethnic groups. Secondly, enhance emotional belonging through personalized technology, such as providing customized engraving services or using QR codes to bind exclusive cultural heritage certificates so that consumers can trace the product's craftsman genealogy, production workshop history, or manual craft archives, thereby establishing emotional connections and identity recognition beyond product use. Finally, the use of digital narrative mechanisms is crucial. Companies can build a multi-platform immersive cultural experience ecosystem through micro-documentaries, in-store augmented reality (AR) displays, and interactive mobile applications. These digital contents not only help convey the historical, festive, and national symbolic meanings of tin products but also attract young

consumer groups to actively participate in the cultural communication process (Rodriguez-Robledo et al., 2019). Through the above path, tin product brands not only sell material goods but also become carriers of cultural memory, identity symbols, and aesthetic recognition, truly realizing the transformation from "handicrafts" to "cultural assets."

This approach aligns with the global trend of "experiential luxury," where authenticity, craftsmanship, and personalization far outweigh mere material enjoyment. By using tin-lead as a medium for cultural storytelling rather than a commodity, Malaysian producers can reposition their craftsmanship as a treasure trove of contemporary design and national memory.

In summary, Malaysia's tin-lead industry stands at the intersection of culture, commerce, and technology—a gap filled with both challenges and strategic opportunities. By combining policy reforms, institutional collaboration, brand innovation, and digital transformation, the industry can rekindle consumer interest and enhance its symbolic status. Therefore, this article proposes a strategic framework to redefine the contemporary significance of tin-lead in the 21st century—where cultural heritage is no longer a relic of the past, but a dynamic resource for the future of the nation and the world.

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