

Introduction: Addressing the Challenges of Innovation in Sustainable Design and Cultural Reproduction in the Digital Era

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Published online: 31 December 2025

To cite this article: Fauzan Mustaffa, Lim Kok Yoong, and Amir Shahlan Amiruddin. 2025. "Introduction: Addressing the Challenges of Innovation in Sustainable Design and Cultural Reproduction in the Digital Era." *Wacana Seni Journal of Arts Discourse* 24 (Supp. 1): 1–5. <https://doi.org/10.21315/ws2025.24.s1.ed>

To link to this article: <https://doi.org/10.21315/ws2025.24.s1.ed>

ABSTRACT

This special issue brings together eleven interdisciplinary articles that examine the intersections of innovation, sustainability, and cultural heritage in the digital era, offering varied perspectives on the evolving interplay between technology and cultural practice. The collection showcases how emerging tools, including artificial intelligence, human-centred design, and immersive visualisation, are reshaping creative fields, spanning sustainable architecture, interactive museum design, wearable technologies, and digital reinterpretations of myth and identity. Collectively, these contributions illustrate how innovation can serve not only as a driver for sustainable futures but also as a platform for meaningful dialogue on cultural continuity, the enrichment of sensory experience, and the reconnection between ecological and symbolic relationships. By blending practical innovation with critical cultural inquiry, this issue provides a timely and forward-looking platform for scholars and practitioners to reflect on how design and technology can actively contribute to the creation of inclusive, resilient, and culturally rich futures.

Keywords: innovation, sustainable design, cultural reproduction

INTRODUCTION

Nine articles compiled in this edition of *Wacana Seni* originate from the 4th International Conference on Creative Multimedia (ICCM 2024), which took place from 23 to 25 July 2024 at Multimedia University in Cyberjaya, Malaysia. The conference convened researchers, designers, and artists to rethink how emerging technologies and creative practices can shape sustainable futures. Drawing on contributions from authors affiliated with eleven higher education institutions across six countries in Asia, this special issue presents an Asian-led exploration of culturally grounded approaches to sustainability, set against the backdrop of rapid advances in digital technology, innovative design practices, and the evolving challenges of preserving cultural identity and ecological resilience in the contemporary digital landscape.

The articles are organised around four central themes:

1. Designing sustainable future
2. Innovation for cultural continuity
3. Cultural embodiment and sensory futures
4. Reclaiming myth, ecology, and identity

This special issue aims to spark meaningful dialogue on how innovation can serve as both a tool and a catalyst for advancing sustainable design and cultural reproduction in the digital era. The articles not only highlight practices and technologies but also raise important questions about cultural continuity, ethical responsibility, and the evolving role of design in shaping human experience. By offering a rich tapestry of insights drawn from across Asia, this issue invites scholars, designers, and practitioners to reflect on how collaborative, culturally sensitive, and forward-looking approaches can help address the complex challenges of building inclusive, resilient, and meaningful futures.

DESIGNING SUSTAINABLE FUTURES

The first cluster of this special issue collectively argues that designing for sustainable futures requires both critical reflection and creative integration of technologies. Emerging technologies are harnessed not for efficiency alone but for their capacity to strengthen human values and foster design literacy. This epoch calls for a new design literacy—one that recognises that design is not a fixed discipline, but a living response to the evolving challenges of its time.

In dialogue with these design-centred inquiries, the author of “Investigating Authenticity-Related Features of Prominent AI Logo Generators” shifts the discussion toward digital design tools and their ethical implications. The article challenged the presumed neutrality of AI-generated visual identities, revealing how an overreliance on automated systems may compromise authenticity, cultural nuance, and creative integrity. It calls for a more critical design literacy that balances automation with human discernment.

Meanwhile, “Enhancing Photorealism in Interior Design: Insights and Innovations from PRIDE Method Analysis” contributes a structured approach to evaluating visual quality in interior generated imagery. The Photorealistic Interior Design Evaluation (PRIDE) method proposes a balance between technical precision and emotional resonance, calling for a new standard in digital interior design that is as attuned to realism and materiality as it is to storytelling and aesthetic consideration.

Together, these articles expand the discourse on digital design ethics and evaluation, underscoring the need for critical awareness and methodological rigour in an era increasingly shaped by automation and simulation. They advocate for a design practice that upholds authenticity, emotional depth, and creative responsibility amid rapid technological advancement.

INNOVATION FOR CULTURAL CONTINUITY

The second group of articles explores sustainability through the lens of culture, heritage and technology. While conservation of cultural heritage is often guided by historical frameworks that emphasise authenticity, there is growing interest and recognition that heritage can be

reimagined. In today's rapidly advancing digital landscape, innovation is a necessary pathway to allow cultural heritage to evolve, adapt, and remain relevant to contemporary audiences. These papers argue that sustaining culture is itself an act of innovation, one in which design serves as a strategy for deconstruction, reconstruction, and the imaginative making of the future.

The article "Sustainable Development Practice of Architectural Design for Cultural Protection in Chinese Cities" explores how integrating traditional Chinese aesthetics into sustainable modern design brings forward both challenges and opportunities for embedding intangible cultural values within urban development. It reveals the tensions between vernacular visual languages and urban ecological frameworks, suggesting new ways to weave intangible heritage into contemporary urban design.

In "The Simulation of Museum Interior Experiences Through 3D Visualisation: The Comparison Study on Visitor Perception," the authors investigate the burgeoning trend of cultural immersion within Indonesian tourism, with a particular focus on enhancing museum experiences to attract and engage younger audiences. This study proposes that museums, crucial to both tourism and cultural education, must collaboratively improve their facilities, accessibility, and programming to better appeal to younger generations, who exhibit less interest in traditional museum settings.

The article "Research into Criteria for Spontaneous Design Thinking of Designers in Problem Solving" analyses how engineering, art-based, and interface designers approach problem-solving differently in new product development. Using empirical observation, it identifies distinct priorities—such as usability, aesthetics, and ergonomics—and proposes a conceptual model to help multidisciplinary teams integrate these strengths for more efficient, user-centred design outcomes.

These studies collectively advance the discourse on design as a catalyst for cultural preservation, user engagement, and creative innovation. They emphasise the evolving relationship between tradition and modernity, human experience and technology, and artistic intuition and systematic design thinking—highlighting how interdisciplinary approaches can generate more meaningful and sustainable design solutions.

CULTURAL EMBODIMENT AND SENSORY FUTURES

The third cluster explores how technology and creative practice come together to shape human experience, cultural expression, and storytelling. Across varied examples, these works illustrate how innovation can deepen emotional connection, safeguard cultural meaning, and promote more inclusive and meaningful forms of communication in today's evolving digital landscape.

In the realm of animation, sign language is not merely a tool for authentic representation but a critical component of character development and narrative progression. The article "The Exploration of Storytelling and Visual Filmmaking with Sign Language in Japanese Animated Media" investigates the nuanced portrayal of deaf characters in contemporary animation, where sign language operates both as a communication method and a compelling storytelling device. This study highlights how such animated works not only capture diverse lived experiences but also shape and influence audience perceptions of deafness.

In exploring the evolving digital landscape, the article "I-WEAR NUSA (Innovative-Wear Nusantara): The Implementation of Experimental Fashion Design Method through Interactive Wearable Fashion Creation" examines how cultural heritage preservation is integrated with modern fashion technology. This research seeks to bridge traditional cultural elements with contemporary innovations, exemplified through electro-fashion and augmented reality,

specifically drawing inspiration from the rich cultural heritage of the Sasak Sade tribe. The paper introduces the I-WEAR NUSA method as a pioneering framework for creating fashion wearables that embed cultural preservation within both their design and functionality.

These articles highlight how technology is not only reshaping sensory and embodied experiences but also redefining the ways identity, communication, and tradition are expressed through media and design. They underscore the potential of creative innovation to cultivate more empathetic, inclusive, and culturally resonant engagements in the digital age.

RECLAIMING MYTH, ECOLOGY AND IDENTITY

The final cluster of papers reclaims mythology, local ecological knowledge, and cultural identity by positioning technologies as narratives of place, community, and survival. These works make clear that technology is far from being a neutral tool; it is always culturally situated and shaped by the specificities of local contexts when it comes to its application. When interwoven with storytelling, technology becomes a power site of negotiation: it can produce alternative narratives, and it can just as effectively resist erasure, reclaim silenced voices, and forge a path for more inclusive futures.

Expanding on the exploration of digital-era storytelling, “Crafting Cultural Connection through Storytelling in Visual Artwork” offers a human-centred framework for embedding narrative authenticity into promotional product design. By integrating cultural heritage, user-centred methods, and contemporary technologies, this research highlights how authentic narrative techniques in visual communication can strengthen cultural expression, reinforce identity-making, and reframe sustainability as an issue of audience connection and cultural resilience.

This design ethos finds further expression in “Analysis of the Visual Similarities and Differences between the Character of Hikayat Seri Rama (Malaysia) and Ramakien (Thailand) called Hanuman for the Creation of Digital Artworks.” Through a comparative lens, this paper examines how digital reinterpretations of Hanuman can revitalise regional folklore and foster transnational cultural dialogue. Southeast Asian mythology is revived and reimagined through comparative visual analysis. While it aims to deepen scholarly insights and public appreciation of Hanuman, here mythology becomes not a relic of the past but an active narrative framework for regional solidarity and creative continuity.

Together, these papers demonstrate how myth, ecology, and cultural identity can be reactivated through design and technology to generate new forms of meaning and connection. They remind us that reclaiming cultural narratives is not only an act of preservation but also a powerful strategy for imagining more inclusive, resilient, and culturally vibrant futures.

CONCLUSION

This special issue emphasises that innovation in sustainable design and cultural reproduction is not merely about producing novel outputs, but about regenerating meaningful relationships between people, environment, memory, mythology, and media. The collected works presented here challenge narrow definitions of technological progress and sustainability, offering instead a diverse and culturally grounded vision shaped by Asia’s diverse epistemologies and creative traditions.

Rather than positioning Asia as a passive adopter of global technologies, these contributions highlight how the region’s rich legacies, from mythological worldviews and oral storytelling to

syncretic aesthetics and intergenerational knowledge, can generate alternative pathways for sustainability, design, and cultural resilience. Across architecture, fashion, animation, museum design, folklore reinterpretation, and more, the articles converge on a shared understanding: that sustainability is not a singular outcome, but a living, evolving practice that honours entanglements of heritage, identity, and imagination.

These nine contributions converge on a shared understanding: that sustainability is not a singular goal, but a living, diverse practice that honours the entanglements of heritage, place, identity, and imagination. They invite us to imagine creative multimedia not as a neutral medium but one for relational flourishing. From this perspective, Asia does not merely participate in global futures; it co-authors them, offering a rich, grounded, and regenerative vision of what sustainability can mean.