

Ethnomusicology and Cultural Sustainability: Toward an Integrated Model for the Preservation of Traditional Music in the Era of Digitalization and Global Tourism

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ARTICLE INFO

Keywords: Ethnomusicology, Cultural Sustainability, Intangible Cultural Heritage, Intergenerational Transmission, Cultural Tourism

Received : 21, May

Revised : 24, June

Accepted: 29, July

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ABSTRACT

Traditional music is an intangible cultural heritage vulnerable to globalization, digitalization, and tourism commodification, yet potentially vital for sustainable development. This study develops a conceptual framework for traditional music sustainability integrating five dimensions: intergenerational transmission, digitalization, cultural tourism, community-based governance, and ecological-climate justice. Using a critical integrative literature review of 32 peer-reviewed sources (2016–2026) from leading publishers, with case illustrations from Indonesia, China, and Uganda, findings show that Schippers and Grant's (2016) five-domain framework remains relevant but requires extension toward polyphonic governance and ecological entanglement. Sustainable traditional music governance must center culture-bearing communities as primary decision-makers, deploy technology contextually, and align with SDG 4, SDG 11, and SDG 13.

INTRODUCTION

Traditional music occupies a distinctive position within global sustainability discourse. Unlike tangible cultural heritage such as temples, monuments, or architecture, music lives through practice, performance, and recurring, situational human interaction. This performative character renders traditional music simultaneously vulnerable and resilient: vulnerable because its existence depends on the continuity of the social practices that sustain it, yet resilient because of its capacity to adapt and rediscover its relevance in contemporary contexts. This tension between vulnerability and resilience lies at the core of the concept of music sustainability, which has developed rapidly since the second decade of the twenty-first century (Schippers & Grant, 2016).

The conceptual framework of music sustainability was first systematically formulated by Schippers and Grant (2016) in *Sustainable Futures for Music Cultures*, which proposed five domains of musical vitality: systems of learning music, musicians and communities, contexts and constructs, regulations and infrastructure, and media and the music industry. This framework has become a principal reference for applied ethnomusicology, as reaffirmed by Russell (2023) in her reflective interview with Huib Schippers a decade after the idea was first published. Its field application nonetheless continues to face complex challenges, ranging from the geographical imbalance of knowledge production, to the dominance of state narratives in intangible cultural heritage policy (Sengupta, 2024), to the ambiguous role of digital technology as both a preservation tool and a new threat to cultural authenticity (Egan, 2021).

The urgency of this study is driven by three interrelated global pressures. First, cultural globalization accelerates the homogenization of younger generations' musical tastes, causing many local traditions to lose their base of successors (Isabirye, 2021a). Second, digital transformation changes how music is documented and consumed, creating both new opportunities and new risks for cultural ownership (Ren & Lam, 2026; Tang & Wu, 2025). Third, climate change has begun to affect the material continuity and ritual contexts of many musical traditions (Harrison, 2020). At the same time, sustainably managed traditional music can serve as a driver of local economic growth through cultural tourism (Mazlan et al., 2025), a vehicle for character education (Kallio, 2019), and a medium of cultural diplomacy (Melpignano & Azara, 2019). The principal contribution of this article is the development of an Integrated Framework of Ethnomusicological Sustainability that synthesizes five dimensions into a coherent conceptual model. The proposed framework (Figure 1) provides a theoretical foundation for aligning ethnomusicological sustainability with the Sustainable Development Goals (SDGs) agenda, while enriching sustainability scholarship—historically dominated by environmental and economic dimensions—by asserting the importance of cultural sustainability as a fourth pillar of sustainable development.

This article addresses three research questions: (1) how does contemporary ethnomusicology literature conceptualize the sustainability of traditional music as a multidimensional construct; (2) what strategies have been developed across cultural contexts to support intergenerational transmission,

digitalization, and cultural tourism; and (3) how can these strategies be integrated into a coherent framework relevant to global sustainable development.

LITERATURE REVIEW

From Classical to Applied Ethnomusicology

Ethnomusicology has undergone a significant reorientation since the early twenty-first century. Whereas classical ethnomusicology focused on documenting and analyzing musical structure, applied ethnomusicology positions researchers as actors directly engaged in preservation, revitalization, and cultural policy advocacy (Graber & Sumera, 2020). Egan (2021) reflects on the researcher's position in the digital era, in which the boundary between "insider" and "outsider" has become increasingly blurred due to easy access to recordings and online platforms, without this necessarily eliminating power asymmetries between researcher and community. This argument aligns with Kallio's (2019) call for decolonizing music education research methodology.

Five-Domain Framework of Music Sustainability

The Schippers and Grant (2016) framework provides an analytical map for systematically diagnosing points of vulnerability within a musical tradition. Russell (2023) notes that the framework was deliberately designed to be descriptive rather than prescriptive, enabling adaptation across cultural contexts. However, Tang and Wu (2025), through a bibliometric analysis of 269 articles on musical heritage preservation (2000–2024), found a striking geographical imbalance in this field's knowledge production, and proposed a "polyphonic" approach—borrowing Bakhtin's concept of the coexistence of equal voices—as an ethical framework for deconstructing single-narrative dominance.

Intergenerational Transmission as the Core of Sustainability

Isabirye's (2021a, 2021b, 2025) series of ethnographic studies on music revitalization among the Basoga and Acholi peoples of Uganda shows that Indigenous music learning differs fundamentally from formal colonial-derived education models. In her study of the adungu tradition of the Acholi people, Isabirye (2025) demonstrates that musical cognition formed through communal practice offers an alternative pedagogical model that enriches formal music education. This finding is relevant to the Indonesian context, where traditional Javanese karawitan learning has historically relied on listening and bodily imitation rather than written notation alone.

Intangible Cultural Heritage and the Politics of Recognition

Poplawska (2025), through comparative fieldwork in Indonesia and Poland, shows that the impact of the UNESCO intangible cultural heritage system depends heavily on each country's socio-political context. The 2010 UNESCO recognition of angklung as heritage led to the establishment of the Indonesian Angklung Practitioners Association in 2021, which secured government funding for bamboo conservation and documentation of angklung practices. However, this recognition system also risks encouraging the bureaucratization of cultural practices that were previously fluid. A similar critique is offered by Chan (2018), who asserts that genuine sustainability enables

communities to innovate and adapt their traditions rather than merely preserving a static form. Majsova and Šepetavc (2023) add that the category of cultural heritage should also encompass popular music as "living heritage."

Digitalization: Between Preservation and New Risks

Ren and Lam (2026), through an analysis of 798 articles from Web of Science and CNKI, found a striking divergence in conceptual orientation between the technology-centric Western approach (VR, AR, blockchain) and the Chinese approach, which emphasizes culture-technology symbiosis. Various specific technologies have been developed: Skublewska-Paszkowska et al. (2022) review three-dimensional technology for intangible heritage preservation; Trček (2022) explores blockchain for heritage-data authenticity; Saputra et al. (2022) developed an automated Raspberry Pi-based angklung player in Indonesia; and Kurniawati et al. (2024) built a Javanese gamelan notation dataset for deep-learning applications. Nevertheless, Istvandity (2021) warns that musical heritage can be "lost" even after digital archiving, due to insufficient curation and long-term management sustainability. Bhebhe and Ngoepe (2021) offer a community-based approach as an alternative solution.

Cultural Tourism and Economic Value

Mazlan et al. (2025) conclude that music tourism contributes to cultural preservation and economic growth, but faces risks of heritage commodification. D'Amico (2024) illustrates this tension through the case of the Bulang ethnic group in Yunnan, where folk songs interwoven with original ecological myths undergo an identity reconfiguration when transformed into tourist performances. Rudan and Stipanović (2021) offer a more optimistic perspective from Eastern Croatia, while Melpignano and Azara (2019) emphasize the importance of collaborative governance among heritage authorities, tourism managers, and musician communities. Zhang et al. (2024) identify infrastructure and community-participation barriers in Xiangxi, China, while Hong and Wu (2022) show that augmented reality can enrich visitor experience without sacrificing authenticity, provided its design involves deep community consultation.

Ecological and Climate Justice

Grant (2019) examines the case of Etétung, Vanuatu women's water music, showing that traditional musical practice is closely interwoven with local ecological knowledge, such that climate-change threats to natural resources directly endanger the continuity of the music itself. Harrison (2020) extends this argument by framing Indigenous music sustainability as a holistic web of relationships among humans, non-human life, and the environment. Sengupta (2024) and Van der Hoeven (2018) add the dimensions of migration and diasporic collective memory as further contexts shaping music sustainability across national borders.

METHODOLOGY

This study employs a critical integrative literature review approach, suited to synthesizing methodologically diverse cross-disciplinary findings—qualitative ethnography, bibliometric analysis, and technology case studies—

into a coherent conceptual framework (Mazlan et al., 2025; Tang & Wu, 2025). Unlike systematic reviews, which require rigid search protocols, this approach allows for flexible thematic synthesis while maintaining methodological transparency.

Search Strategy and Study Selection

Literature was collected through the Scopus and Web of Science databases and publisher repositories (Taylor & Francis Online, SAGE Journals, Oxford Academic, SpringerLink, ScienceDirect, Emerald Insight, and Inderscience Online), using the keywords "music sustainability," "applied ethnomusicology," "intangible cultural heritage music," "musical heritage preservation," and "traditional music education." Consistent with the principles of a critical integrative literature review, source selection was guided by conceptual relevance rather than exhaustive retrieval. The search process was iterative, allowing additional publications to be incorporated whenever they substantially enriched emerging conceptual themes. Priority was given to peer-reviewed journal articles and scholarly books published between 2016 and 2026 by established academic publishers with verifiable bibliographic information and Digital Object Identifiers (DOIs), where available.

Rather than aiming for comprehensive coverage, the review sought analytical depth by selecting publications that made substantive contributions to the understanding of traditional music sustainability, applied ethnomusicology, digital heritage, community governance, cultural tourism, and ecological sustainability.

The final corpus consisted of thirty-two publications that collectively represented the principal theoretical perspectives, empirical case studies, and methodological approaches relevant to the objectives of this review. Selection ceased when additional literature no longer introduced substantially new conceptual insights, indicating sufficient thematic coverage for the purposes of conceptual synthesis.

Exclusion Criteria

Sources were excluded when they fell outside the study period (2016–2026), lacked substantive engagement with traditional music sustainability or applied ethnomusicology, originated from publication outlets excluded under the study criteria, or could not be verified bibliographically. Duplicate publications and studies presenting substantially overlapping findings without additional conceptual contribution were also omitted.

Coding and Thematic Synthesis

Each of the thirty-two included sources was read in full and open-coded line by line, following the first stage of Thomas and Harden's (2008) thematic synthesis approach. Codes captured, for each source, the geographic and cultural context, the methodological approach, the dimension(s) of music sustainability addressed, and the principal finding or argument. Coding was carried out manually in a structured coding matrix rather than dedicated qualitative-analysis software, given the corpus size; all three authors independently coded an initial subset of sources and cross-checked their codes to establish a shared coding framework before dividing the remaining sources for coding, with periodic consistency checks throughout the process.

Descriptive codes were then grouped inductively into broader descriptive themes through constant comparison (Braun & Clarke, 2006), before being organized deductively against the five domains of Schippers and Grant's (2016) music sustainability framework (systems of learning, musicians and communities, contexts and constructs, regulations and infrastructure, and media and industry). Two descriptive themes that recurred consistently across the corpus—ecological and climate entanglement, and polyphonic, community-centered governance—did not map cleanly onto the original five domains, and were therefore retained as candidate analytical themes for framework extension rather than forced into the existing categories.

Framework Construction

The integrated framework presented in this article was constructed by mapping the analytical themes onto, and where necessary extending, Schippers and Grant's (2016) five-domain model. Convergent themes across the Indonesian, Chinese, and Ugandan case clusters were treated as candidate universal principles, while divergent or context-specific findings were retained as boundary conditions on those principles rather than discarded. The resulting five principles—community epistemic sovereignty, bounded innovation, contextually responsive technology, equitable economic integration, and ecological entanglement—were iteratively revised through discussion among the three authors until consensus was reached that each principle was supported by evidence from at least two of the three geographic case clusters, providing a basic form of analytical triangulation appropriate to a qualitative literature synthesis.

Case studies from Indonesia, China, and Uganda were purposively selected during the coding process to illustrate the application of these themes across diverse cultural contexts, not for statistical generalization.

RESEARCH RESULT

The literature synthesis yields five interrelated dimensions of traditional music sustainability. A summary of the principal findings for each dimension is presented in Table 1.

Table 1. Summary of Traditional Music Sustainability Dimensions and Key Sources

No	Dimension	Key Findings	Key Sources
1	Intergenerational Transmission	Indigenous music learning is holistic, participatory, and affective; formalizing it into modern education systems risks reducing the epistemic richness of its original learning methods.	Isabirye (2021a, 2021b, 2025); Kallio (2019)
2	Digitalization and Archiving	Technology (3D, blockchain, AI, robotics) opens preservation opportunities but	Ren & Lam (2026); Istvandity (2021); Bhebhe & Ngoepe (2021); Carroll

No	Dimension	Key Findings	Key Sources
		risks deepening epistemic inequality and causing “hidden loss” of digitally archived heritage.	et al. (2020); Skublewska-Paszkowska et al. (2022); Trček (2022); Saputra et al. (2022); Kurniawati et al. (2024)
3	Cultural Tourism	Music tourism supports local economies and regional identity but risks commodification and the erosion of cultural meaning when governance excludes community participation.	Mazlan et al. (2025); D'Amico (2024); Rudan & Stipanović (2021); Melpignano & Azara (2019); Zhang et al. (2024); Hong & Wu (2022)
4	Community-Based Governance	International intangible cultural heritage recognition opens funding but risks bureaucratizing once-fluid cultural practices; polyphonic governance embracing community voices is needed.	Poplawska (2025); Chan (2018); Majsova & Šepetavc (2023); Tang & Wu (2025); Sengupta (2024)
5	Ecological-Climate Justice	The continuity of traditional music is interwoven with the sustainability of ecosystems that supply instrument materials and ritual contexts; climate change threatens both simultaneously.	Grant (2019); Harrison (2020); Van der Hoeven (2018)

These five dimensions do not stand independently but mutually influence one another. For example, the success of intergenerational transmission (Dimension 1) is partly determined by the extent to which digital technology (Dimension 2) is used contextually to support, rather than replace, Indigenous learning methods; while economic sustainability through cultural tourism (Dimension 3) depends heavily on the quality of community-based governance (Dimension 4). This cross-dimensional interconnection forms the basis for the integrated framework discussed in the following section.

Across the reviewed literature, intergenerational transmission and digitalization emerged as the most consistently discussed themes, whereas ecological-climate justice appeared less frequently but represented an emerging direction in recent scholarship. Community governance functioned as a cross-cutting dimension influencing all other domains.

DISCUSSION

The findings above confirm that traditional music sustainability cannot be reduced to the technical matter of archival documentation, but must instead be

understood as a dynamic ecosystem, as formulated by Schippers and Grant (2016). Their five-domain framework remains a valuable theoretical foundation, but Tang and Wu's (2025) findings on the geographical imbalance of knowledge production indicate the need to extend this framework to be more inclusive of voices from the Global South, including Southeast Asia, which remains relatively underrepresented in the global music sustainability literature.

Regarding intergenerational transmission, Isabirye's (2021a, 2021b, 2025) studies in Uganda offer an important lesson for the Indonesian context: the tension between the holistic logic of oral transmission and the competency-based logic of formal education constitutes a genuine structural challenge for sustaining the learning of *karawitan*, *tembang*, and other traditional music forms within arts education institutions. Kallio (2019) offers the critical framework of "methodological responsibility," which requires music educators to deconstruct the Western epistemic assumptions embedded within curricular structures, rather than merely adding traditional music content to an otherwise unchanged pedagogical framework.

Regarding digitalization, Ren and Lam's (2026) comparison reveals an important insight: no universal model of heritage digitalization can be applied uniformly. Two Indonesian examples illustrate this contrast: Saputra et al.'s (2022) automated *angklung* player represents a technology-centric approach that raises philosophical questions about the boundary between "preservation" and "transformation" of an instrument's social meaning, while Kurniawati et al.'s (2024) gamelan notation dataset is more oriented toward preserving musical knowledge for long-term research. Istvandy's (2021) concern about the "hidden loss" of digitized heritage is relevant to many traditional-music digitalization projects in Indonesia, which tend to be short-term projects lacking post-funding archive-management sustainability mechanisms.

Regarding cultural tourism, the tension between economic opportunity and commodification risk is clearly illustrated in D'Amico's (2024) case in Yunnan and is equally relevant to *wayang kulit* and gamelan performances increasingly packaged for tourist consumption in Yogyakarta, Surakarta, and Bali. Zhang et al. (2024) identify inhibiting factors—infrastructure limitations, low community participation, insufficient tourism-product diversification—that are also relevant to the Indonesian context, while Hong and Wu (2022) show that integrating digital technology into cultural tourism products can enrich visitor experience without sacrificing authenticity, provided the design process involves deep community consultation.

Regarding community governance, the polyphonic framework of Tang and Wu (2025) provides a useful theoretical foundation: heritage preservation should reject any single authoritative narrative and instead embrace a diversity of voices from various cultural groups, including those historically marginalized. This argument echoes Poplawska's (2025) critique of the bureaucratization of the UNESCO intangible cultural heritage system and the productive middle path offered by Chan (2018) through the concept of innovation-based sustainability.

Regarding ecological justice, the implications for the Indonesian context are highly significant, given that many traditional musical instruments—such as

bamboo-based angklung or various gamelan instruments made from specific metals and woods—depend on the availability of natural raw materials that may be threatened by environmental degradation and climate change (Grant, 2019; Harrison, 2020). Traditional music sustainability, therefore, cannot be separated from the sustainability of the ecosystems that support both raw-material availability and the ritual and seasonal contexts of performance.

The review demonstrates that no single dimension can sustain traditional music independently. Rather, sustainability emerges from the interaction among governance, transmission, digitalization, tourism, and ecological stewardship. Weakness in one dimension is likely to reduce the effectiveness of the others.

Toward an Integrated Framework of Ethnomusicological Sustainability



Figure 1. Radial Visualization of the Proposed Integrated Framework

Building on the above synthesis, this study proposes five principles for an integrated framework of ethnomusicological sustainability. First, community epistemic sovereignty, which positions culture-bearing communities as primary decision-makers, consistent with Carroll et al. (2020), Poplawska (2025), and Sengupta (2024). Second, bounded innovation, which recognizes the need for space to adapt tradition (Chan, 2018; Majsova & Šepetavc, 2023) while maintaining accountability toward the community of origin to prevent harmful commodification (D'Amico, 2024). Third, contextually responsive technology, which rejects uniform digital solutions, as shown by the divergent Western-Chinese orientations (Ren & Lam, 2026), and demands long-term archive-management sustainability (Istvandity, 2021). Fourth, equitable economic

integration, which asserts the fair distribution of cultural-tourism economic benefits to musician communities (Rudan & Stipanović, 2021; Mazlan et al., 2025). Fifth, ecological entanglement, which integrates environmental considerations into every traditional music preservation strategy (Grant, 2019; Harrison, 2020). This integrated framework is directly relevant to SDG 4 (quality education), SDG 8 and SDG 11 (economic growth and sustainable communities), and SDG 13 (climate action), such that ethnomusicology can no longer be regarded as isolated from mainstream sustainable development discourse.

CONCLUSIONS AND RECOMMENDATIONS

This study shows that traditional music sustainability is a multidimensional phenomenon encompassing intergenerational transmission, digitalization, cultural tourism, community governance, and ecological-climate justice. Schippers and Grant's (2016) five-domain framework remains a valuable theoretical foundation, but requires extension to accommodate the dimensions of polyphonic governance (Tang & Wu, 2025) and ecological entanglement, which are increasingly urgent in contemporary contexts.

Case studies from Indonesia, China, and Uganda show that traditional music sustainability strategies must be contextually tailored to each community's social, political, and ecological conditions, without disregarding universal principles of community epistemic sovereignty and economic-ecological justice. It is recommended that cultural policymakers, tourism destination managers, arts education institutions, and heritage technology developers work collaboratively with culture-bearing communities, rather than treating them merely as objects of preservation or tourist attractions. Intangible cultural heritage funding policy should incorporate long-term sustainability mechanisms, rather than short-term project funding alone, in order to prevent the "hidden loss" of digitized heritage (Istvandity, 2021).

FURTHER STUDY

This study is a conceptual literature review and has not been empirically tested through primary fieldwork. Future research should develop in-depth ethnographic studies that test the application of the proposed integrated framework in specific contexts, particularly in Southeast Asia, which remains relatively underrepresented in the global music sustainability literature. Quantitative research on the economic and social impacts of implementing equitable music sustainability principles is also needed to strengthen the evidence base for more effective and inclusive future cultural policymaking.

ACKNOWLEDGMENT

The authors would like to thank the traditional music communities and practitioners whose practices and experiences inspired this study, as well as colleagues at the Ethnomusicology Study Program, Faculty of Cultural Sciences, Universitas Sumatera Utara, who provided constructive feedback during the preparation of this manuscript. This research received no specific grant or

funding from any funding agency in the public, commercial, or not-for-profit sectors, and was conducted independently by the authors.

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