

Artificial Intelligence for Cultural Steward: Digital Governance and the Sustainability of Performing Arts

Ms. Vibhoo Bajpai¹, Prof. Dr. Sukhwant S. Bindra²

¹Amity University, Noida, India

²Amity University, Noida, India

Abstract

The rapid advancement of Artificial Intelligence (AI) has transformed cultural institutions and creative industries by reshaping the ways in which performing arts are documented, preserved, disseminated, and experienced. While existing scholarship has extensively explored AI as a technological innovation for heritage preservation and digital transformation, comparatively limited attention has been devoted to its governance implications for sustaining performing arts as living intangible cultural heritage. Consequently, the relationship between AI, digital governance, and the long-term sustainability of performing arts remains conceptually fragmented within contemporary cultural policy and performing arts literature.

This study addresses this gap by examining how Artificial Intelligence can contribute to the sustainability of performing arts through governance-oriented approaches. Employing an exploratory qualitative research design, the study synthesises secondary data drawn from academic literature, UNESCO conventions and policy frameworks, government reports, and international publications relating to Artificial Intelligence, cultural policy, digital governance, and intangible cultural heritage. Thematic analysis was undertaken to identify recurring patterns concerning AI-enabled preservation, accessibility, community participation, governance, and cultural sustainability.

The findings indicate that Artificial Intelligence has the potential to strengthen the sustainability of performing arts by enhancing cultural preservation, expanding accessibility, facilitating participatory engagement, and supporting adaptive governance. However, the analysis also demonstrates that technological innovation alone is insufficient to safeguard living artistic traditions. Ethical governance, institutional collaboration, community participation, and culturally responsive policy frameworks remain essential for ensuring that AI supports rather than displaces artistic creativity, cultural authenticity, and intergenerational knowledge transmission.

Drawing upon these findings, the study proposes the *Artificial Intelligence for Cultural Stewardship (AICS) Framework*, a governance-oriented conceptual model that repositions AI from a purely technological instrument to an enabling mechanism for the preservation, accessibility, participation, and sustainable development of performing arts. By integrating perspectives from performing arts, cultural policy, and digital governance, the study contributes to emerging debates on responsible AI while providing a conceptual foundation for future research and policy development aimed at safeguarding living cultural heritage within increasingly digital societies.

Keywords: Artificial Intelligence; Performing Arts; Cultural Stewardship; Digital Governance; Cultural Policy; Intangible Cultural Heritage; Sustainability; Cultural Ecosystem Services.

1. Introduction

Performing arts have historically functioned as living expressions of cultural memory, collective identity, and social continuity. Unlike tangible cultural assets such as monuments or artefacts, performing arts survive through continuous practice, intergenerational transmission, and active participation by artists, communities, and cultural institutions. They embody intangible cultural heritage by preserving traditional knowledge, artistic expression, languages, rituals, and community values while simultaneously adapting to changing social and cultural contexts. Consequently, the sustainability of performing arts extends beyond preservation alone; it requires governance mechanisms capable of supporting cultural continuity, accessibility, innovation, and public engagement within increasingly dynamic societies.

The rapid expansion of Artificial Intelligence (AI) and digital governance is reshaping the ways in which cultural knowledge is created, preserved, managed, and disseminated. AI technologies—including machine learning, natural language processing, computer vision, and generative systems—are increasingly being integrated into museums, archives, cultural institutions, and heritage management practices. Within the performing arts sector,

digital platforms have expanded opportunities for documentation, virtual performances, audience engagement, multilingual translation, digital archiving, and creative collaboration across geographical boundaries. These developments present significant opportunities for sustaining cultural practices that are vulnerable to urbanisation, demographic change, and shifting patterns of cultural participation. At the same time, they raise important questions concerning authenticity, artistic agency, cultural ownership, algorithmic bias, ethical governance, and the role of technology in shaping living cultural traditions. Contemporary scholarship has extensively examined Artificial Intelligence within domains such as public administration, digital governance, cultural heritage preservation, and creative industries. Similarly, research on intangible cultural heritage has emphasised the importance of community participation, cultural continuity, and sustainable preservation. However, these bodies of literature have largely evolved in parallel. Existing studies predominantly explore AI as a technological instrument for documentation, automation, or efficiency, while comparatively limited attention has been given to its broader governance role in sustaining performing arts as living cultural heritage. Consequently, there remains insufficient theoretical understanding of how AI can support cultural sustainability without reducing artistic practices to technologically mediated outputs or weakening community ownership of cultural traditions.

This paper argues that Artificial Intelligence should be understood not merely as a technological innovation but as a form of cultural stewardship. Rather than replacing artists, cultural practitioners, or community knowledge, AI can function as an enabling mechanism that supports the preservation, accessibility, transmission, and sustainable evolution of performing arts through ethical digital governance and participatory cultural policy. By introducing the concept of AI for Cultural Stewardship, the paper shifts the discussion from technological capability towards governance responsibility, arguing that sustainable performing arts require institutional frameworks that balance technological innovation with cultural authenticity, inclusivity, and community participation.

Situated within the Indian context, where performing arts constitute an integral component of the nation's rich intangible cultural heritage, the study adopts an exploratory qualitative research design based on thematic analysis of policy documents, UNESCO frameworks, government reports, and contemporary academic literature. India provides a particularly relevant context because its extraordinary cultural diversity coexists with rapid digital transformation, creating both opportunities and challenges for sustaining living artistic traditions. Through this analysis, the paper develops a governance-oriented conceptual framework illustrating how Artificial Intelligence, digital governance, and participatory cultural policy can collectively contribute to the long-term sustainability of performing arts.

By repositioning Artificial Intelligence as an instrument of cultural stewardship rather than merely technological advancement, this study contributes to emerging debates at the intersection of performing arts, cultural policy, digital governance, and sustainable development. In doing so, it seeks to provide a conceptual foundation for policymakers, cultural institutions, artists, and researchers seeking to harness digital innovation while safeguarding the social, cultural, and ethical values embedded within living artistic traditions.

1.1 Performing Arts as Living Intangible Cultural Heritage

Performing arts constitute one of the most dynamic expressions of intangible cultural heritage, encompassing traditions such as music, dance, theatre, oral storytelling, rituals, and other artistic practices that are transmitted through continuous performance and collective participation. Unlike tangible heritage, which is preserved through the conservation of physical artefacts or monuments, performing arts survive through active practice, intergenerational knowledge transfer, and community engagement. Their significance therefore lies not only in artistic expression but also in their ability to preserve cultural memory, reinforce collective identity, and sustain social continuity (UNESCO, 2003).

The adoption of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) marked a significant shift in cultural policy by recognising that safeguarding heritage requires supporting the communities, groups, and individuals who create, perform, and transmit cultural traditions. This approach broadened the understanding of heritage from static preservation to the protection of living cultural practices. Consequently, performing arts are increasingly recognised as evolving cultural systems that adapt to changing social, economic, and technological contexts while maintaining their historical and cultural significance (UNESCO, 2003).

Beyond their cultural importance, performing arts contribute significantly to sustainable development. Throsby (2010) argues that culture generates both economic and non-economic value by strengthening creativity, social cohesion, and community identity. Similarly, the Cultural Ecosystem Services (CES) framework identifies performing arts as providers of important non-material benefits, including aesthetic appreciation, emotional well-being, cultural identity, place attachment, and opportunities for learning and recreation (Fish et al., 2016). These perspectives demonstrate that performing arts contribute not only to cultural preservation but also to broader social resilience and community well-being, making them an important component of sustainable urban development.

Recent scholarship has further reinforced the role of culture within sustainability discourse by recognising cultural heritage as an essential dimension of inclusive development rather than a peripheral policy concern. UNESCO's

recent work on cultural policies emphasises that cultural participation contributes to resilient communities, social inclusion, and local development while strengthening cultural diversity within rapidly changing societies (UNESCO, 2025). This perspective highlights the growing need to integrate performing arts within broader policy frameworks that support both cultural continuity and sustainable development.

Despite their recognised importance, performing arts face increasing challenges arising from rapid urbanisation, commercialisation, demographic change, declining audience participation, and the digital transformation of cultural production. While digital technologies have expanded opportunities for documentation and dissemination, scholars argue that recording performances alone cannot preserve the embodied knowledge, creativity, and community relationships that define living cultural traditions. The sustainability of performing arts therefore depends not only on technological innovation but also on governance systems that encourage participation, accessibility, institutional support, and intergenerational transmission of cultural knowledge.

This evolving understanding has shifted scholarly attention from asking how performing arts should be preserved to examining how they can remain sustainable within increasingly digital societies. Consequently, contemporary debates increasingly focus on the role of digital technologies, Artificial Intelligence, and cultural governance in supporting living artistic traditions while maintaining authenticity, community ownership, and cultural diversity. This provides the foundation for examining the digital transformation of performing arts and the emerging role of Artificial Intelligence within contemporary cultural ecosystems.

1.2 Digital Transformation, Artificial Intelligence and the Performing Arts

The digital transformation of cultural production has fundamentally reshaped the ways in which performing arts are created, experienced, preserved, and disseminated. Advances in digital technologies have expanded artistic practice beyond conventional performance spaces, enabling performances to be documented, streamed, archived, and accessed through diverse digital platforms. These developments have significantly altered relationships between artists, audiences, cultural institutions, and policymakers by creating new forms of participation that transcend geographical and temporal boundaries (Giaccardi, 2012). Consequently, digital technologies have become integral to contemporary performing arts ecosystems, influencing both artistic production and cultural governance.

The COVID-19 pandemic accelerated this transformation by compelling performing arts organisations worldwide to adopt digital platforms for performance, education, audience engagement, and cultural outreach. Virtual concerts, online theatre productions, digital dance performances, and hybrid festivals demonstrated that technology could sustain artistic practice during periods of restricted physical interaction while simultaneously reaching audiences previously excluded by geographical, financial, or physical barriers (UNESCO, 2022). Although these developments emerged as crisis responses, they have continued to influence cultural institutions, contributing to more flexible and digitally integrated models of artistic engagement.

Within this evolving landscape, Artificial Intelligence has emerged as a significant technological development with implications extending beyond digital preservation. AI technologies—including machine learning, natural language processing, computer vision, and generative systems—are increasingly supporting cultural institutions in documenting performances, organising digital archives, enhancing multilingual accessibility, analysing audience engagement, and improving cultural resource management (UNESCO, 2024). These applications demonstrate the capacity of AI to strengthen institutional efficiency while expanding opportunities for preserving and disseminating performing arts across increasingly diverse audiences.

Recent scholarship, however, suggests that the contribution of Artificial Intelligence extends beyond technical functionality. Digital humanities researchers argue that AI is gradually reshaping how cultural knowledge is interpreted, curated, and experienced, influencing not only institutional practices but also public engagement with artistic traditions (Manovich, 2023). Similarly, studies in cultural policy highlight that digital technologies are redefining relationships between cultural institutions and citizens by facilitating more interactive, collaborative, and participatory forms of cultural engagement (Belfiore, 2023). These developments suggest that Artificial Intelligence should be understood as part of a broader process of digital cultural transformation rather than merely another technological tool adopted within the cultural sector.

Despite these opportunities, digital transformation also presents significant challenges for performing arts. Scholars increasingly caution that excessive dependence on digital technologies may encourage the commodification of cultural expression, reinforce algorithmic biases, and privilege commercially visible artistic practices over locally embedded cultural traditions (UNESCO, 2024). Furthermore, unequal access to digital infrastructure, disparities in technological literacy, and concerns relating to intellectual property and cultural ownership continue to shape who benefits from digitally mediated cultural participation. These issues demonstrate that technological innovation alone cannot guarantee the sustainable development of performing arts.

Accordingly, contemporary scholarship increasingly recognises that the successful integration of Artificial Intelligence within performing arts depends not only upon technological capability but also upon governance

frameworks capable of balancing innovation with cultural authenticity, ethical responsibility, and community participation. This growing emphasis on governance provides the basis for examining how Artificial Intelligence should be regulated and embedded within cultural policy to support the long-term sustainability of performing arts.

1.3 Artificial Intelligence and Cultural Policy

The growing integration of Artificial Intelligence (AI) into cultural and creative sectors has shifted scholarly attention from technological innovation to questions of governance, regulation, and institutional responsibility. While AI offers significant opportunities for improving cultural documentation, audience engagement, digital preservation, and knowledge management, its adoption within the performing arts has also generated complex ethical and policy challenges. Consequently, contemporary research increasingly argues that the future of AI in cultural sectors depends not only on technological capability but also on governance systems capable of ensuring transparency, inclusivity, accountability, and cultural integrity (UNESCO, 2024).

Digital governance provides an important framework for understanding these challenges. Traditionally associated with the use of digital technologies to improve public administration and institutional effectiveness, digital governance has evolved to encompass collaborative decision-making, stakeholder participation, ethical regulation, and evidence-informed policy development (Janssen & van der Voort, 2020). Within the cultural sector, digital governance extends beyond administrative efficiency by shaping how cultural resources are preserved, accessed, interpreted, and shared among artists, cultural institutions, governments, and communities. This shift reflects an increasing recognition that technological systems influence not only organisational processes but also broader questions of cultural rights, representation, and public participation.

Recent scholarship highlights that the governance implications of AI are particularly significant within the performing arts because these artistic traditions depend upon community knowledge, creative interpretation, and intergenerational transmission rather than solely on digital preservation. AI-supported systems can improve documentation, multilingual translation, audience analytics, and cultural archiving; however, they also raise concerns regarding algorithmic bias, intellectual property, ownership of cultural knowledge, and the representation of minority artistic traditions (UNESCO, 2024). Without appropriate governance mechanisms, AI applications may inadvertently privilege dominant cultural narratives while marginalising local, Indigenous, or less digitally represented performing traditions.

The ethical dimensions of AI have therefore become central to contemporary debates in cultural policy. Recent international discussions emphasise that AI systems should be guided by principles of transparency, fairness, human oversight, cultural diversity, and respect for human rights (UNESCO, 2021). These principles are particularly relevant to performing arts, where questions of authenticity, artistic agency, informed consent, and community ownership remain fundamental. Scholars argue that AI should complement rather than replace artistic creativity, recognising that cultural value emerges through human experience, collective memory, and social interaction rather than through technological reproduction alone (Floridi & Cowls, 2022).

At the policy level, governments and international organisations have increasingly recognised the need to integrate digital transformation within broader cultural strategies. Recent UNESCO reports on cultural policies emphasise that sustainable cultural development requires coordinated governance frameworks that balance innovation with cultural diversity, accessibility, and community participation (UNESCO, 2025). Such approaches encourage collaboration between policymakers, cultural institutions, technology developers, and artistic communities while ensuring that digital innovation contributes to long-term cultural sustainability rather than short-term technological advancement.

Despite these developments, existing scholarship remains fragmented. Studies in digital governance often prioritise technological implementation and institutional efficiency, whereas research in performing arts primarily focuses on artistic practice, heritage preservation, or audience engagement. Comparatively limited attention has been devoted to understanding how AI can be governed as part of a broader cultural sustainability agenda that simultaneously addresses preservation, accessibility, participation, and ethical responsibility. This gap suggests the need for an integrated conceptual perspective capable of connecting Artificial Intelligence, digital governance, and performing arts within a unified framework for sustainable cultural development. It is this gap that the present study seeks to address in the subsequent discussion by proposing a governance-oriented understanding of AI within the sustainability of performing arts.

1.4 Research Gap

The preceding review demonstrates that scholarship on performing arts, digital transformation, Artificial Intelligence, and cultural governance has expanded considerably over the past decade. Research has established the importance of performing arts as living intangible cultural heritage, examined the contribution of digital technologies to cultural preservation and audience engagement, and explored the growing role of Artificial Intelligence within cultural institutions. Similarly, studies in digital governance and cultural policy have emphasised the importance of transparency, participation, ethical regulation, and institutional collaboration in

managing digital transformation. Collectively, these contributions provide valuable insights into the changing relationship between technology and culture.

Despite these advances, the existing body of literature remains fragmented across disciplinary boundaries. Research within heritage studies predominantly examines Artificial Intelligence as a technological tool for documentation, digital archiving, restoration, and heritage conservation. Conversely, studies in performing arts primarily focus on artistic practice, audience engagement, cultural participation, and the safeguarding of intangible cultural heritage. Literature in digital governance, on the other hand, largely concentrates on institutional efficiency, digital public services, regulatory mechanisms, and administrative innovation. Although these streams of scholarship address complementary issues, they rarely converge within a common conceptual framework capable of explaining how Artificial Intelligence should be governed to support the long-term sustainability of performing arts.

A second limitation concerns the dominant technological orientation of existing research. Much of the current literature evaluates Artificial Intelligence according to its capacity to improve efficiency, automate institutional processes, or expand digital accessibility. While these technological contributions are important, they frequently overlook the broader social and cultural dimensions that define performing arts as living heritage. Questions relating to artistic autonomy, community ownership, cultural authenticity, ethical responsibility, and intergenerational knowledge transmission often receive secondary attention despite their central importance to sustainable cultural development. As a result, Artificial Intelligence is commonly positioned as an operational solution rather than as part of a broader governance ecosystem that shapes cultural continuity and public value.

Furthermore, contemporary cultural policy increasingly recognises that sustainable development cannot be achieved through technological innovation alone. International policy frameworks emphasise that cultural sustainability depends upon inclusive governance, community participation, institutional collaboration, and equitable access to cultural resources (UNESCO, 2025). However, relatively few studies have examined how these governance principles can be integrated with Artificial Intelligence within the context of performing arts. Consequently, there remains limited theoretical understanding of how technological innovation can be aligned with ethical governance while preserving the social, cultural, and creative values embedded within living artistic traditions.

This study responds to these gaps by adopting an interdisciplinary perspective that brings together performing arts, Artificial Intelligence, digital governance, and cultural policy within a single analytical framework. Rather than approaching AI exclusively as a technological innovation, the study examines its broader implications for cultural sustainability through the lens of governance and institutional responsibility. In doing so, the paper shifts the focus from what Artificial Intelligence can do to how Artificial Intelligence should be governed to strengthen the sustainability of performing arts.

The discussion that follows builds upon this interdisciplinary synthesis to propose a governance-oriented conceptual framework that repositions Artificial Intelligence as an enabling mechanism for the preservation, accessibility, participation, and sustainable development of performing arts. By integrating insights from performing arts scholarship, cultural policy, and digital governance, the study contributes to emerging debates on responsible AI while extending contemporary discussions on the future of living cultural heritage in increasingly digital societies.

2. Methodology

2.1 Research Design

This study adopts an exploratory qualitative research design to examine the evolving relationship between Artificial Intelligence, digital governance, and the sustainability of performing arts. An exploratory approach is particularly appropriate because the intersection of these themes remains an emerging area of scholarly inquiry, with limited theoretical integration across performing arts, cultural policy, and digital governance. Rather than testing causal relationships, the study seeks to develop a conceptual understanding of how AI can contribute to the long-term sustainability of performing arts through governance-oriented approaches. Qualitative inquiry therefore provides the flexibility necessary to examine complex cultural, institutional, and policy dimensions that cannot be adequately captured through quantitative measurement alone.

2.2 Nature of the Study

The study is exploratory and interpretive in nature. It seeks to investigate how Artificial Intelligence is currently conceptualised within literature relating to cultural heritage, performing arts, and digital governance, while also identifying emerging themes relevant to sustainable cultural policy. Rather than evaluating the technical performance of AI systems, the study focuses on understanding their broader cultural, ethical, and governance implications. The interpretive approach enables the analysis of relationships between technological innovation, institutional practices, and cultural sustainability within contemporary policy environments.

2.3 Data Sources

The study relies exclusively on secondary sources of information, selected to provide a comprehensive understanding of the relationship between Artificial Intelligence and the sustainability of performing arts. The documentary sources include:

- UNESCO conventions and policy frameworks relating to intangible cultural heritage and cultural sustainability;
- Government policy documents concerning digital governance, cultural policy, and digital transformation;
- Reports published by international organisations, including UNESCO and the United Nations;
- Academic journal articles, books, and conference proceedings addressing Artificial Intelligence, digital governance, performing arts, cultural heritage, and sustainable development; and
- Policy reports and institutional publications examining emerging applications of AI within cultural and creative sectors.

The use of diverse documentary sources facilitates triangulation by incorporating international policy perspectives, academic scholarship, and institutional practices relevant to the study.

2.4 Method of Analysis

The study employs thematic analysis as the primary method of qualitative data analysis. Thematic analysis provides a systematic approach for identifying, organising, and interpreting recurring patterns within textual data and is widely recognised as an appropriate method for synthesising evidence from documentary sources. The analytical process involved repeated reading of policy documents, scholarly literature, and institutional reports, followed by the coding of recurring concepts related to Artificial Intelligence, digital governance, cultural sustainability, and performing arts.

Similar concepts were subsequently grouped into broader analytical themes that reflected common patterns across the literature. Rather than merely cataloguing technological applications, the analysis sought to interpret how existing scholarship conceptualises the relationship between AI, governance, and the sustainability of performing arts. The identified themes form the basis for the discussion presented in the subsequent sections and provide the foundation for the conceptual framework proposed in this study.

3. Findings

The thematic analysis of policy documents, international frameworks, and scholarly literature identified four interconnected themes that characterise the emerging relationship between Artificial Intelligence and the sustainability of performing arts. Rather than functioning solely as technological innovations, AI-enabled systems increasingly influence how performing arts are documented, accessed, experienced, and governed. At the same time, the analysis indicates that technological advancement alone is insufficient to ensure cultural sustainability. Effective implementation depends upon ethical governance, institutional coordination, and meaningful community participation. The principal themes emerging from the analysis are discussed below.

3.1 AI as an enabler of Preservation and Cultural Continuity

One of the most consistent themes identified across the literature concerns the expanding role of Artificial Intelligence in preserving performing arts as living cultural heritage. Unlike tangible cultural assets, performing arts are inherently ephemeral, existing primarily through live performance, oral transmission, and continuous artistic practice. Consequently, preserving these traditions requires mechanisms capable of documenting not only performances themselves but also the associated knowledge, languages, movement vocabularies, musical traditions, and cultural contexts that give them meaning.

The analysis indicates that AI technologies—including machine learning, computer vision, speech recognition, and natural language processing—are increasingly supporting these preservation efforts. Intelligent documentation systems facilitate the digital recording of performances, automated cataloguing of archival materials, multilingual transcription of oral traditions, and restoration of historical cultural records. Such applications contribute to the long-term continuity of performing arts by reducing the risk of cultural loss arising from urbanisation, demographic change, and the gradual decline of traditional knowledge systems.

However, the findings also suggest that digital preservation should not be interpreted as a substitute for living cultural practice. While AI enhances the capacity to record and organise cultural knowledge, the sustainability of performing arts ultimately depends upon continued artistic practice, community engagement, and intergenerational transmission. Digital technologies therefore function most effectively when supporting, rather than replacing, the social processes through which performing arts continue to evolve.

3.2 Expanding Accessibility through Digital Technologies

A second major theme concerns the capacity of Artificial Intelligence and digital technologies to improve accessibility to performing arts. Traditional participation in cultural activities is frequently constrained by geographical distance, economic barriers, limited institutional infrastructure, and unequal access to cultural

opportunities. Digital technologies have significantly expanded opportunities for audiences to engage with performing arts beyond conventional performance venues.

The analysis indicates that AI-supported platforms contribute to broader accessibility through digital archives, virtual performances, intelligent recommendation systems, multilingual translation technologies, and adaptive digital interfaces. These developments enable wider dissemination of artistic content while increasing opportunities for participation among geographically dispersed audiences, persons with disabilities, and communities that have historically experienced limited access to cultural resources.

Nevertheless, the findings demonstrate that technological accessibility alone does not automatically generate cultural inclusion. Persistent disparities in digital infrastructure, technological literacy, and economic resources continue to influence who is able to participate in digitally mediated cultural experiences. Consequently, digital accessibility must be accompanied by policies that address broader questions of equity, inclusion, and digital participation within the cultural sector.

3.3 Community Participation and Collaborative Cultural Governance

The third theme emerging from the analysis emphasises the continuing importance of community participation within digitally enabled performing arts ecosystems. Although Artificial Intelligence has expanded institutional capacities for documentation and information management, the literature consistently recognises that performing arts derive their cultural significance from the communities that create, perform, and transmit them across generations.

Digital governance mechanisms increasingly facilitate collaborative forms of cultural participation through crowdsourced documentation, community archives, online knowledge-sharing platforms, and participatory decision-making processes. These initiatives enable artists, researchers, cultural institutions, and local communities to contribute collectively to the preservation and interpretation of performing arts. Such collaborative approaches strengthen transparency, encourage shared ownership of cultural resources, and enhance the legitimacy of cultural governance processes.

The findings therefore indicate that Artificial Intelligence contributes most effectively when embedded within participatory governance structures that recognise local knowledge, cultural diversity, and the active role of communities in safeguarding living cultural traditions.

3.4 Governance and Ethical Challenges in AI-Enabled Performing Arts

While Artificial Intelligence presents significant opportunities for sustaining performing arts, the analysis also identifies important governance and ethical challenges associated with its increasing adoption. Existing literature raises concerns regarding algorithmic bias, unequal cultural representation, data ownership, intellectual property rights, privacy, and the potential commercialisation of cultural knowledge. These challenges become particularly significant when AI systems are applied to living cultural traditions that remain closely connected to community identity and cultural rights.

Institutional challenges also remain evident. Fragmented governance structures, inconsistent policy frameworks, unequal technological capacity, and limited coordination among cultural organisations frequently constrain the effective implementation of AI-enabled initiatives. Furthermore, disparities in digital infrastructure and technological literacy risk reinforcing existing inequalities within the cultural sector, limiting participation among smaller communities and independent artists.

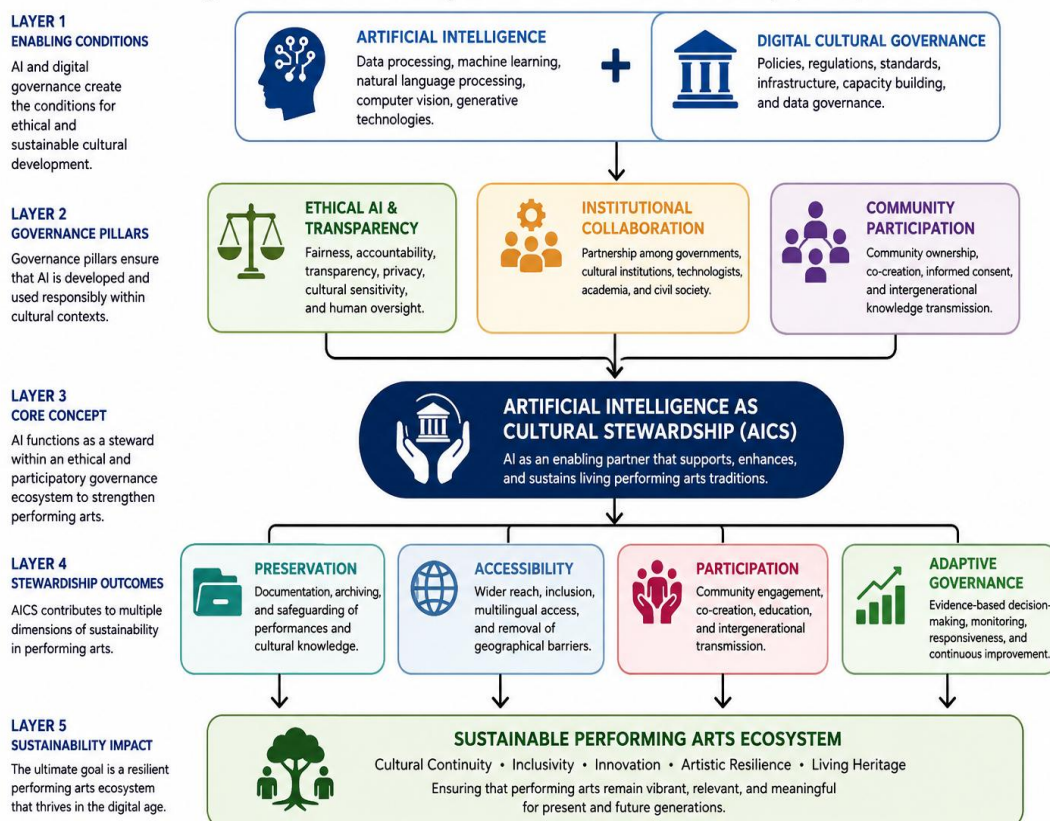
The findings suggest that these challenges cannot be addressed solely through technological innovation. Instead, they require governance frameworks capable of balancing innovation with ethical accountability, community participation, institutional coordination, and the long-term sustainability of performing arts. This highlights the need for approaches that move beyond technological adoption towards more comprehensive models of cultural governance.

4. Discussion

The findings of this study demonstrate that Artificial Intelligence is increasingly reshaping the governance of performing arts through its contributions to preservation, accessibility, participation, and institutional decision-making. However, the thematic analysis also indicates that these contributions cannot be understood solely through the language of technological innovation. Existing scholarship has largely examined Artificial Intelligence in terms of efficiency, automation, digital documentation, and information management. While such perspectives explain what AI is capable of doing, they provide comparatively limited insight into how these technological capabilities should be governed within living cultural systems that depend upon human creativity, community participation, and intergenerational transmission. The present study therefore argues that the sustainability of performing arts requires a conceptual shift from viewing Artificial Intelligence as a technological instrument to understanding it as a mechanism for cultural stewardship.

The concept of stewardship has traditionally been associated with responsible care, long-term accountability, and the ethical management of shared resources. Within environmental governance, stewardship emphasises the responsibility of individuals and institutions to protect ecological systems for future generations. A similar understanding may be extended to performing arts, which represent living cultural systems rather than static cultural assets. Unlike monuments or museum collections, performing arts derive their significance from continued performance, adaptation, and collective participation. Their survival therefore depends not merely upon documentation but upon maintaining the social, institutional, and cultural conditions that enable artistic traditions to remain active within communities. From this perspective, Artificial Intelligence should not be understood as replacing artistic knowledge or cultural practice but as supporting the stewardship of these traditions through ethically governed technological systems.

Figure 1. Artificial Intelligence as Cultural Stewardship (AICS) Framework



The findings reinforce this interpretation in several ways. First, the analysis demonstrates that AI substantially enhances the capacity of cultural institutions to preserve performing arts through intelligent documentation, multilingual transcription, digital archiving, restoration technologies, and knowledge management systems. These technologies expand institutional capabilities for safeguarding performances, oral traditions, musical repertoires, and other forms of intangible cultural heritage that are vulnerable to loss through urbanisation, demographic change, or declining participation. Nevertheless, preservation alone cannot ensure cultural sustainability. A digitally archived performance cannot substitute for the embodied knowledge, creative interpretation, and social relationships that emerge through live artistic practice. Artificial Intelligence therefore contributes most effectively when it strengthens, rather than replaces, the cultural processes through which artistic traditions continue to evolve. Second, the findings illustrate that Artificial Intelligence contributes significantly to expanding cultural accessibility. Digital platforms, virtual performances, intelligent search systems, and multilingual interfaces reduce geographical and informational barriers that have historically constrained participation in performing arts. These technologies create opportunities for wider public engagement while enabling audiences from diverse cultural and socio-economic backgrounds to experience artistic traditions beyond conventional performance spaces. However, accessibility should not be interpreted exclusively in technological terms. The analysis also highlights persistent inequalities associated with digital infrastructure, economic resources, technological literacy, and institutional capacity. Consequently, technological accessibility must be accompanied by inclusive cultural policies that ensure

equitable participation rather than reproducing existing patterns of exclusion. Cultural stewardship therefore requires governance systems that treat accessibility as both a technological and a social objective.

A third contribution emerging from the analysis concerns the relationship between Artificial Intelligence and community participation. Existing literature consistently emphasises that performing arts remain meaningful because they are created, interpreted, and transmitted by communities. The findings similarly demonstrate that digital governance mechanisms have the potential to strengthen collaborative cultural ecosystems by enabling artists, audiences, researchers, and cultural institutions to participate collectively in documentation, interpretation, and knowledge exchange. This participatory dimension distinguishes stewardship from purely managerial approaches to cultural governance. Whereas administrative models frequently prioritise institutional efficiency, stewardship recognises that cultural sustainability depends upon maintaining relationships between cultural practitioners, local communities, and governance institutions. Artificial Intelligence therefore functions most effectively when it supports collaborative participation rather than centralised technological control.

The analysis also identifies significant ethical and governance challenges that reinforce the need for a stewardship perspective. Concerns relating to algorithmic bias, cultural representation, intellectual property, data ownership, privacy, and unequal technological access demonstrate that technological innovation alone cannot guarantee positive cultural outcomes. Artificial Intelligence is not a neutral technological system; its operation reflects institutional priorities, governance structures, and the quality of data upon which algorithms are trained. Without appropriate regulatory frameworks, AI may unintentionally privilege dominant cultural narratives while marginalising smaller artistic communities or underrepresented cultural traditions. These findings suggest that governance should not be viewed as an external regulatory mechanism operating alongside Artificial Intelligence but rather as an integral component of responsible technological implementation within the cultural sector.

Drawing upon these findings, this study proposes the Artificial Intelligence for Cultural Stewardship (AICS) Framework as a governance-oriented conceptual model for understanding the relationship between Artificial Intelligence and the sustainability of performing arts. Rather than positioning AI as an autonomous technological actor, the framework conceptualises Artificial Intelligence as an enabling institutional mechanism embedded within broader systems of digital cultural governance. The framework consists of four interdependent dimensions: cultural preservation, cultural accessibility, participatory engagement, and adaptive governance. Together, these dimensions provide the conditions through which technological innovation contributes to the long-term sustainability of performing arts.

Within this framework, cultural preservation refers to the responsible use of Artificial Intelligence for documenting, archiving, restoring, and safeguarding artistic traditions while respecting the integrity of cultural knowledge. Cultural accessibility emphasises expanding equitable opportunities for participation through inclusive digital platforms, multilingual technologies, and accessible cultural infrastructure. Participatory engagement recognises the central role of artists, cultural practitioners, and local communities in shaping the production, interpretation, and transmission of cultural knowledge. Finally, adaptive governance highlights the importance of transparent policy frameworks, institutional coordination, ethical regulation, and evidence-informed decision-making capable of responding to rapidly evolving technological environments.

These four dimensions should not be understood as sequential stages but as mutually reinforcing components of an integrated cultural governance ecosystem. Preservation without accessibility limits public value. Accessibility without participation risks reducing performing arts to passive digital consumption. Participation without governance may produce fragmented preservation efforts, while governance without ethical accountability risks reinforcing technological inequalities or undermining cultural autonomy. Sustainable performing arts therefore emerge through the balanced interaction of all four dimensions rather than through isolated technological interventions.

The proposed framework also contributes to existing scholarship by repositioning Artificial Intelligence within debates concerning cultural sustainability. Much of the current literature continues to evaluate AI according to technological performance, institutional efficiency, or innovation capacity. The present study suggests that these perspectives are necessary but insufficient for understanding the governance of living cultural traditions. By introducing the concept of Artificial Intelligence for Cultural Stewardship, the paper broadens existing discussions to include ethical responsibility, participatory governance, cultural rights, and long-term institutional accountability. In doing so, it establishes a conceptual bridge between digital governance, performing arts, and sustainable cultural policy that has received comparatively limited attention within existing scholarship.

Ultimately, the sustainability of performing arts will not depend solely upon the sophistication of Artificial Intelligence technologies but upon the governance systems within which those technologies are embedded. Artificial Intelligence should therefore be regarded not as a substitute for artistic creativity or cultural knowledge but as a steward that strengthens the capacity of artists, cultural institutions, policymakers, and communities to preserve, transmit, and sustain living cultural traditions for future generations. It is this governance-oriented

understanding of Artificial Intelligence that constitutes the principal theoretical contribution of the present study and provides a foundation for future empirical research examining how cultural stewardship may be operationalised across diverse artistic and institutional contexts.

5. Policy implications

The findings of this study suggest that the long-term sustainability of performing arts requires policy approaches that extend beyond technological adoption. While Artificial Intelligence provides important opportunities for documentation, accessibility, and cultural participation, these benefits are unlikely to be realised without governance structures capable of integrating technological innovation with cultural values, ethical accountability, and community participation. The proposed Artificial Intelligence as Cultural Stewardship (AICS) framework therefore carries several implications for cultural policy and institutional governance.

5.1 Integrating Artificial Intelligence within National Cultural Policy

The increasing application of Artificial Intelligence within performing arts necessitates the integration of digital technologies into broader cultural policy frameworks rather than treating AI as an isolated technological initiative. National cultural policies should recognise Artificial Intelligence as an enabling mechanism that supports the preservation, accessibility, and sustainable development of performing arts while maintaining the central role of artists and cultural practitioners.

Such integration requires greater coordination among ministries responsible for culture, digital governance, education, and innovation. Rather than implementing fragmented technological projects, governments should adopt comprehensive policy frameworks that align digital transformation with long-term cultural sustainability objectives. This integrated approach can strengthen institutional coherence while ensuring that technological development contributes to broader cultural and social outcomes.

5.2 Strengthening Digital Infrastructure for Performing Arts

The findings demonstrate that accessibility remains a fundamental determinant of sustainable cultural participation. Consequently, investments in digital infrastructure should extend beyond urban technological development to include the cultural sector. Digital repositories, intelligent archival systems, virtual performance platforms, multilingual databases, and cloud-based cultural resources can significantly expand opportunities for preserving and disseminating performing arts.

However, infrastructure development should also address disparities in technological access across regions and communities. Equitable digital infrastructure is essential for ensuring that smaller cultural organisations, independent artists, and rural communities are able to participate in digitally enabled cultural ecosystems rather than becoming excluded from technological transformation.

5.3 Promoting Participatory Cultural Governance

The analysis highlights that performing arts derive their cultural significance through continuous interaction between artists, communities, and cultural institutions. Accordingly, governance models should prioritise participatory approaches that actively involve cultural practitioners and local communities in decision-making processes relating to digital preservation and AI implementation.

Participatory governance may include community-led digital documentation initiatives, collaborative cultural archives, citizen engagement platforms, and consultative mechanisms through which artists and cultural organisations contribute to policy development. Such approaches strengthen transparency, reinforce community ownership, and ensure that technological innovation remains responsive to diverse cultural contexts rather than being driven exclusively by institutional or technological priorities.

5.4 Developing Ethical Frameworks for Artificial Intelligence in the Arts

The rapid adoption of Artificial Intelligence within cultural institutions raises important ethical questions concerning artistic ownership, cultural representation, intellectual property, algorithmic transparency, and the responsible use of cultural data. Existing regulatory frameworks often remain insufficiently equipped to address these emerging challenges.

Governments and cultural institutions should therefore develop ethical guidelines specifically designed for the application of Artificial Intelligence within performing arts and cultural heritage. These frameworks should establish principles relating to informed consent, protection of Indigenous and community knowledge, transparency in algorithmic decision-making, equitable cultural representation, and accountability for AI-generated cultural outputs. Ethical governance should be regarded as a foundational requirement for cultural sustainability rather than as a secondary consideration following technological implementation.

5.5 Building Institutional and Human Capacity

Technological innovation can contribute to cultural sustainability only when supported by institutional capacity and human expertise. Cultural organisations, heritage institutions, universities, and arts academies require sustained investment in digital skills, AI literacy, and interdisciplinary collaboration. Capacity-building initiatives

should extend beyond technical training to include ethical governance, digital curation, cultural policy, and community engagement.

Professional development programmes for artists, archivists, curators, policymakers, and cultural administrators can strengthen institutional preparedness while encouraging responsible innovation within the performing arts sector. Such initiatives will enable cultural institutions to adopt Artificial Intelligence in ways that complement rather than displace artistic creativity and traditional knowledge systems.

5.6 Advancing International Collaboration for Cultural Sustainability

The preservation and promotion of performing arts increasingly transcend national boundaries through digital technologies and global cultural networks. International collaboration among governments, cultural institutions, UNESCO, academic organisations, and creative industries can facilitate the exchange of technological expertise, policy innovations, and best practices relating to AI-enabled cultural governance.

Collaborative initiatives may include transnational digital archives, joint research programmes, shared ethical standards, and international funding mechanisms that support the documentation and preservation of endangered performing arts traditions. Such partnerships can contribute to safeguarding cultural diversity while ensuring that technological advancement benefits a broad range of artistic communities rather than a limited number of technologically advanced institutions.

The policy implications emerging from this study reinforce the central argument that Artificial Intelligence should not be understood solely as a technological innovation but as a governance resource whose effectiveness depends upon ethical regulation, institutional collaboration, and community participation. Sustainable performing arts cannot be achieved through technological investment alone. Instead, they require integrated policy frameworks that recognise performing arts as living cultural systems and position Artificial Intelligence as an enabling mechanism for their responsible stewardship. By adopting governance approaches that balance innovation with cultural integrity, policymakers and cultural institutions can create conditions in which technological transformation strengthens rather than diminishes the vitality of performing arts.

Conclusion

The rapid integration of Artificial Intelligence into cultural institutions has fundamentally altered the ways in which performing arts are documented, preserved, accessed, and governed. While technological innovation has created unprecedented opportunities for safeguarding intangible cultural heritage, it has simultaneously generated new challenges relating to ethics, governance, cultural representation, and community participation. Existing scholarship has largely approached Artificial Intelligence from technological, administrative, or preservation-oriented perspectives, emphasising its capacity to improve documentation, automate institutional processes, and expand digital accessibility. Comparatively less attention has been devoted to understanding how Artificial Intelligence can contribute to the long-term sustainability of performing arts as living cultural systems that depend upon continuous artistic practice, intergenerational knowledge transmission, and active community engagement.

This study sought to address this gap by examining the relationship between Artificial Intelligence, digital governance, and the sustainability of performing arts through an exploratory qualitative analysis of policy documents, international frameworks, and academic scholarship. The thematic analysis demonstrated that Artificial Intelligence contributes to cultural sustainability in multiple ways, including strengthening preservation efforts, expanding accessibility, facilitating participatory governance, and supporting evidence-informed decision-making. At the same time, the analysis highlighted that technological innovation alone cannot guarantee sustainable outcomes. Questions concerning ethical governance, algorithmic transparency, cultural ownership, digital inclusion, and institutional coordination remain central to the successful integration of Artificial Intelligence within performing arts ecosystems.

The principal contribution of this study lies in proposing Artificial Intelligence for Cultural Stewardship (AICS) as a governance-oriented conceptual framework for understanding the relationship between technology and the sustainability of performing arts. Rather than conceptualising Artificial Intelligence as an autonomous technological solution or a replacement for artistic creativity, the framework positions AI as an enabling mechanism that supports the preservation, accessibility, transmission, and adaptive governance of performing arts while recognising the continuing agency of artists, cultural practitioners, and local communities. In doing so, the paper extends existing discussions beyond questions of technological capability and introduces a broader governance perspective that emphasises ethical responsibility, participatory cultural policy, and institutional accountability.

The study also contributes to ongoing debates surrounding cultural sustainability by reinforcing the idea that performing arts should be understood as dynamic cultural ecosystems rather than static heritage assets. Their long-term survival depends not only upon digital documentation or technological innovation but also upon governance arrangements that promote cultural continuity, equitable access, collaborative participation, and responsible

stewardship. Artificial Intelligence therefore becomes valuable not because it replaces human creativity, but because it enhances the capacity of cultural institutions and communities to sustain living artistic traditions within rapidly changing social and technological environments.

From a policy perspective, the findings suggest that governments and cultural institutions should adopt integrated approaches that embed Artificial Intelligence within broader cultural governance frameworks. Investments in digital infrastructure should be accompanied by ethical standards, institutional coordination, participatory governance mechanisms, and capacity-building initiatives that empower artists and communities rather than marginalise them. Such an approach aligns with the broader objectives of sustainable development by recognising that cultural sustainability constitutes an essential dimension of resilient, inclusive, and future-oriented societies.

The study is not without limitations. As a conceptual investigation based on secondary sources, it does not evaluate specific Artificial Intelligence applications or examine the experiences of artists, audiences, or cultural institutions through primary empirical research. Consequently, the proposed framework should be regarded as a conceptual model requiring further empirical validation across different cultural and institutional contexts. Future research may examine how artists perceive AI-assisted creative practices, evaluate the implementation of AI-enabled governance frameworks within performing arts institutions, or investigate the effectiveness of digital cultural policies through comparative international case studies. Quantitative and mixed-methods research could also assess the practical applicability of the proposed framework across different artistic traditions and governance systems.

Ultimately, the sustainability of performing arts in the digital age will depend not on the sophistication of Artificial Intelligence itself but on the principles that guide its development and application. Technology can preserve performances, expand access, and strengthen institutional capacities, yet it cannot replicate the cultural meanings, social relationships, and creative agency that define living artistic traditions. These remain fundamentally human. Artificial Intelligence should therefore be understood as a partner in cultural continuity rather than a substitute for cultural practice. By positioning AI within a framework of cultural stewardship, ethical governance, and community participation, this study argues that digital innovation can become a catalyst for sustaining performing arts while preserving the cultural diversity, creativity, and shared heritage upon which these traditions continue to flourish.

Scope and Limitations of the Study

The scope of this study is confined to the conceptual and policy dimensions of Artificial Intelligence in relation to the sustainability of performing arts. It does not evaluate specific AI technologies, measure audience responses, or assess the effectiveness of individual digital platforms through empirical investigation. Instead, the study aims to synthesize existing knowledge to develop a governance-oriented perspective that may inform future empirical research and policy development.

As the study is based exclusively on secondary data, its findings should be interpreted as conceptual rather than generalizable empirical evidence. Nevertheless, the integration of diverse policy documents, international frameworks, and academic literature provides a robust foundation for developing theoretical insights into the evolving relationship between Artificial Intelligence, digital governance, and sustainable performing arts.

References

1. Belfiore, E. (2023). Who cares? At what price? The hidden costs of socially engaged arts labour and the moral failure of cultural policy. *European Journal of Cultural Studies*, 26(2), 137–155.
2. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
3. Cath, C., Wachter, S., Mittelstadt, B., Taddeo, M., & Floridi, L. (2018). Artificial intelligence and the 'good society': The US, EU, and UK approach. *Science and Engineering Ethics*, 24(2), 505–528.
4. Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). Sage Publications.
5. Duxbury, N., Hosagrahar, J., & Pascual, J. (2016). Why must culture be at the heart of sustainable urban development? *Agenda 21 for Culture*.
6. Fish, R., Church, A., Winter, M., et al. (2016). *Cultural Ecosystem Services: Indicators for Ecosystem Assessment*. DEFRA.
7. Floridi, L. (2023). *The Ethics of Artificial Intelligence: Principles, Challenges, and Opportunities*. Oxford University Press.
8. Floridi, L., & Cows, J. (2022). A unified framework of five principles for AI in society. *Harvard Data Science Review*.
9. Giaccardi, E. (Ed.). (2012). *Heritage and Social Media: Understanding Heritage in a Participatory Culture*. Routledge.

10. ICOMOS. (2024). Digital Heritage and Sustainable Conservation: Emerging Global Practices. International Council on Monuments and Sites.
11. Janssen, M., & van der Voort, H. (2020). Agile and adaptive governance in the digital era. *Government Information Quarterly*, 37(1), 101–112.
12. Manovich, L. (2023). *Artificial Aesthetics: Generative AI, Art and Visual Culture*. MIT Press.
13. OECD. (2024). *Artificial Intelligence in the Public Sector: Opportunities, Governance and Trust*. OECD Publishing.
14. Richards, G. (2022). Rethinking cultural tourism and creative cities in the digital era. *Journal of Cultural Heritage Management and Sustainable Development*, 12(4), 389–405.
15. Smith, L. (2006). *Uses of Heritage*. Routledge.
16. Throsby, D. (2010). *The Economics of Cultural Policy*. Cambridge University Press.
17. UNESCO. (2003). *Convention for the Safeguarding of the Intangible Cultural Heritage*. Paris: UNESCO.
18. UNESCO. (2021). *Recommendation on the Ethics of Artificial Intelligence*. Paris: UNESCO.
19. UNESCO. (2022). *Re|Shaping Policies for Creativity: Addressing Culture as a Global Public Good*. Paris: UNESCO.
20. UNESCO. (2023). *Culture in Crisis: Policy Guide for a Resilient Creative Sector*. Paris: UNESCO.
21. UNESCO. (2024a). *Artificial Intelligence and Intangible Cultural Heritage: Opportunities and Ethical Challenges*. Paris: UNESCO.
22. UNESCO. (2024b). *Digital Transformation and Cultural Heritage*. Paris: UNESCO.
23. UNESCO. (2025). *Global Report on Cultural Policies for Sustainable Development*. Paris: UNESCO.
24. United Nations. (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*. United Nations.
25. United Nations Development Programme. (2024). *Digital Transformation and Inclusive Governance*. New York: UNDP.
26. Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector—Applications and challenges. *International Journal of Public Administration*, 42(7), 596–615.
27. World Economic Forum. (2024). *Global Future Council on Artificial Intelligence and Culture*. Geneva: World Economic Forum.
28. Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage Publications.
29. Zuboff, S. (2019). *The Age of Surveillance Capitalism*. PublicAffairs.
30. Zhang, Y., & Luo, H. (2024). Artificial intelligence, digital heritage, and sustainable cultural governance: Emerging perspectives for cultural policy. *International Journal of Cultural Policy*, 30(2), 145–162.