

# The Role of Digital Technology in Preserving Local Culture: A Case Study of Indigenous Communities in Kalimantan

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**Abstract:** This study aims to analyze the role of digital technology in preserving the local culture of indigenous communities in Kalimantan, focusing on two groups: the Dayak Kenyah and Dayak Ngaju. Digital transformation presents both opportunities and challenges in maintaining cultural identity amidst rapid globalization. The research adopts a qualitative case study approach through interviews, participatory observations, and analysis of digital content produced by the communities. Findings reveal that digital technologies are being utilized for documenting traditional rituals, using social media as cultural showcases, community-based multimedia training, and developing local-language-based digital archives and applications. However, significant obstacles remain, including limited infrastructure, low digital literacy, lack of sustainable mentoring, and risks of cultural commercialization. This study highlights the importance of community participation in the digitalization process and calls for ethical and collaborative approaches. The practical contribution of this research is a proposed model of community-based digital cultural empowerment that can be replicated in other indigenous areas.

**Keywords:** indigenous communities, cultural preservation, digital technology, Kalimantan, cultural participation.

**Abstrak:** Penelitian ini bertujuan untuk menganalisis peran teknologi digital dalam pelestarian budaya lokal komunitas adat di Kalimantan, dengan fokus pada dua komunitas yaitu Dayak Kenyah dan Dayak Ngaju. Transformasi digital telah menciptakan peluang sekaligus tantangan dalam mempertahankan identitas budaya di tengah derasnya arus globalisasi. Studi ini menggunakan pendekatan kualitatif dengan metode studi kasus, melalui wawancara, observasi partisipatif, dan analisis konten digital yang dihasilkan komunitas. Hasil penelitian menunjukkan bahwa teknologi digital telah dimanfaatkan dalam bentuk dokumentasi ritual adat, pemanfaatan media sosial, pelatihan multimedia berbasis komunitas, serta pengembangan arsip dan aplikasi digital berbasis bahasa daerah. Meskipun begitu, masih terdapat berbagai hambatan seperti keterbatasan

infrastruktur, rendahnya literasi digital, kurangnya pendampingan berkelanjutan, dan risiko komersialisasi budaya. Penelitian ini menekankan pentingnya partisipasi komunitas dalam proses digitalisasi budaya serta perlunya pendekatan etis dan kolaboratif. Kontribusi praktis dari penelitian ini adalah tawaran model pemberdayaan budaya digital berbasis komunitas yang dapat direplikasi di wilayah adat lainnya.

**Kata Kunci:** komunitas adat, pelestarian budaya, teknologi digital, Kalimantan, partisipasi budaya.

## INTRODUCTION

Indonesia is known as a country rich in cultural diversity, languages, customs, and local wisdom spread throughout the archipelago. One of the areas with extraordinary cultural richness is Kalimantan, which is home to various indigenous communities such as Dayak, Banjar, and other inland tribes.<sup>1</sup> The uniqueness of their culture is reflected in various aspects of life, from language, dance, music, traditional ceremonies, to sustainable natural resource utilization patterns. However, in the midst of the onslaught of modernization and globalization, various local cultures are experiencing serious pressure, even towards extinction due to the lack of documentation, regeneration, and recognition.

In today's digital era, Indonesian society has entered a phase of massive information technology transformation.<sup>2</sup> Based on data from the Indonesian Internet Service Providers Association (APJII) in 2023, internet penetration has reached more than 77% of the total population of Indonesia. Digital technology, especially social media, has become a new space for expression, including in the distribution of cultural content.<sup>3</sup> But ironically, most indigenous communities,

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<sup>1</sup> Magfirotul Hamdiah and Fatih Holis Ahnaf, "The Role of Digital Media in Maintaining Local Culture Indonesia in the Era of Globalization," *ASMARALOKA : Jurnal Pendidikan, Linguistik Dan Sastra Indonesia* 2, no. 1 (2024): 62–74, <https://doi.org/10.55210/asmaraloka.v2i1.418>.

<sup>2</sup> Imelda Wahyuni, "Transformasi Digital Melalui Teknologi Informasi: Adaptasi Peran Guru Perempuan Sekolah Dasar Pada Masa Pandemi," *SITTAH: Journal of Primary Education* 3, no. 2 (2020): 133–44, <https://doi.org/10.30762/sittah.v3i2.566>; Nicholas C. Burbules, Guorui Fan, and Philip Repp, "Five Trends of Education and Technology in a Sustainable Future," *Geography and Sustainability* 1, no. 2 (2020): 93–97, <https://doi.org/10.1016/j.geosus.2020.05.001>.

<sup>3</sup> H Sidanti et al., "Transformasi Digital Marketing Industri Mancu," *Madaniya* 3, no. 2 (2022): 271–78, <https://madaniya.pustaka.my.id/journals/>; Haribowo Rio et al., "Analysis Of The Role Of Social Media Marketing, Product Quality And Brand Awareness On Buying Decisions For Restaurant Customers In West Java Analisis Peran Social Media Marketing, Kualitas Produk Dan Brand Awareness," *Management Studies and Entrepreneurship Journal* 3, no. 6 (2022): 4024–32, <http://journal.yrpipku.com/index.php/msej>.

especially in remote areas of Kalimantan, still face limited access to technology and minimal digital skills. As a result, they are less involved in the process of creating and distributing their own cultural narratives, so that local cultural heritage is increasingly marginalized in the flow of information dominated by global culture.

The main problem that arises in this context is the weak preservation of local culture by indigenous communities due to the limited use of digital technology. Many local cultures are only passed down orally and have not been documented digitally. This causes local wisdom to be vulnerable to loss over time, especially if there is no younger generation to continue the tradition. In addition, the lack of involvement of indigenous communities in the production of digital content creates an imbalance in the representation of national culture. Cultures from urban communities appear more often on social media and digital platforms, while local cultures from indigenous communities are only "spectators" in the national digital ecosystem.<sup>4</sup>

Some indigenous communities have begun to adapt with the help of NGOs, academics and the private sector who have introduced digital technology in cultural preservation.<sup>5</sup> For example, through training in local documentary filmmaking, digital archiving of traditional ceremonies, and the development of community-based digital platforms. In Kalimantan itself, community-based initiatives have emerged to document folklore, traditional dances, and traditional agricultural practices using simple digital technologies such as smartphones and social media. However, this approach is not evenly distributed and is often only short-term because it is not accompanied by ongoing mentoring and capacity building.

Several previous studies have shown that digital technology has great potential in supporting the preservation of local culture. Research by Kasmirandi et al<sup>6</sup> stated that digitalization has succeeded in increasing the participation of the

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<sup>4</sup> Sekar Ayu Fadhilah et al., "The Role of Digital Technology in the Preservation and Resilience of Local Culture in the Era of Globalization," *International Journal of Advanced Multidisciplinary Research and Studies* 4, no. 4 (2024): 385–91, <https://doi.org/10.62225/2583049x.2024.4.4.3049>.

<sup>5</sup> Akhmad Fadhil Azzahran and Novianto Eko Wibowo, "Peran Dinas Kebudayaan, Pariwisata, Kepemudaan Dan Olahraga Dalam Pelestarian Budaya Lokal Di Era Digital," *Edusociata Jurnal Pendidikan Sosiologi* 7 (2024).

<sup>6</sup> Kasmirandi Kasmirandi, Subhan Akbar Abbas, and Chaeruddin Chaeruddin, "Digitalisasi Dan Kepemimpinan Transformasional: Kunci Peningkatan Kinerja Pegawai Di Enrekang, Sulawesi Selatan," *Jurnal Ilmiah Metansi (Manajemen Dan Akuntansi)* 7, no. 1 (2024): 249–56, <https://doi.org/10.57093/metansi.v7i1.287>.

younger generation in getting to know and promoting their culture and improving employee performance. Meanwhile, a study by Suryanto and Ramadhan<sup>7</sup> shows that indigenous communities in Papua who are trained to use social media are able to document and disseminate their traditional rituals to a wider audience. However, most of these studies still focus on the eastern part of Indonesia and have not highlighted many indigenous communities in Kalimantan. On the other hand, a study by Rini<sup>8</sup> highlighted that the main obstacles are limited infrastructure, human resource capacity, and the high digital divide between urban and rural areas. These studies have the distinction of focusing on indigenous communities in Kalimantan which have not been widely highlighted in previous studies related to cultural digitalization, while most previous studies are still centered on eastern Indonesia such as Sulawesi and Papua.

This study aims to explore and analyze the role of digital technology in preserving the local culture of indigenous communities in Kalimantan. The main focus is to understand how indigenous communities utilize digital technology to document, disseminate, and preserve their culture, as well as identify the challenges and strategies they undertake. This study also aims to formulate a contextual and sustainable local culture-based digital empowerment model.

The urgency of this research is very high considering the increasing rate of extinction of local cultures. UNESCO noted that every two weeks, one local language becomes extinct in the world, and some of these languages come from the Indonesian region.<sup>9</sup> If there is no technology-based intervention that supports the preservation of indigenous community culture, then the nation's cultural identity will lose its local roots. Amidst the dominance of global content, this research is crucial to raise the voices of indigenous communities that are often marginalized. In addition, this research also contributes to development efforts based on local wisdom and strengthens fair and just digital inclusion.

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<sup>7</sup> A. Suryanto and B. Ramadhan, "Media Sosial Dan Representasi Budaya Adat: Studi Komunitas Adat Papua," *Jurnal Sosial Dan Humaniora* 10, no. 1 (2022): 45–56.

<sup>8</sup> T. Rini, "Kendala Digitalisasi Budaya Lokal Di Wilayah Terpencil Indonesia," *Jurnal Teknologi Sosial* 5, no. 1 (2022): 33–47.

<sup>9</sup> Ade Rahima, "Revitalisasi Bahasa Dokumentasi Bahasa," *Pengabdian Deli Sumatera* 3, no. 1 (2024): 56–61; La Ino, La Janu, and Sahur Saerudin, "Sosialisasi Pelestarian Dan Topografi Bahasa Tolaki Di Desa Puasana Kecamatan Moramo Utara Kabupaten Konawe Selatan," *HARMONI: Jurnal Pengabdian Kepada Masyarakat* 1 (2023): 107–14.

This research uses a qualitative approach with a case study method.<sup>10</sup> The research location will focus on two indigenous communities in Kalimantan, namely the Dayak Kenyah community in North Kalimantan and the Dayak Ngaju community in Central Kalimantan. Data collection techniques are carried out through participatory observation, in-depth interviews with indigenous leaders, community youth, and digital facilitators, as well as digital documentation of local cultural activities.<sup>11</sup> This study also utilizes content analysis of digital content produced by the community, such as YouTube videos, Instagram accounts, and community blogs. Data validation is carried out using source and method triangulation techniques to ensure the credibility of the research results.

The novelty of this research lies in its approach that combines studies of cultural preservation and digital technology contextually in indigenous communities in Kalimantan. If previous studies only highlighted the digitalization of culture from the documentation side, this research integrates aspects of community participation in the process of producing cultural content and digital advocacy strategies. In addition, this research offers a model of digital technology empowerment based on local wisdom that can be replicated in other indigenous communities in Indonesia. This model is not only technical, but also considers aspects of values, customary ethics, and long-term socio-cultural sustainability.

## DISCUSSION

### Digital Transformation and Local Culture: Between Threats and Opportunities

The advancement of digital technology in the era of the industrial revolution 4.0 has brought about major changes in various dimensions of human life. From how to communicate, obtain information, to carry out economic and social activities, digital technology has become an inseparable part of the daily lives of global society.<sup>12</sup> This change also extends to the cultural realm, especially in terms of how culture is maintained, learned, and passed on between

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<sup>10</sup> A. Michael Huberman and Saldana Jhonny, *Qualitative Data Analysis a Methods Sourcebook* (America: Arizona State University, 2014); Sugiyono, *Metode Penelitian : Kuantitatif, Kualitatif, Dan R&D* (Bandung: CV Alfabeta, 2016); Afifuddin and Beni, *Metodologi Penelitian Kualitatif* (Bandung: CV Pustaka Setia, 2012).

<sup>11</sup> Lexy Moelong, *Metodologi Penelitian Kualitatif*, Bandung (B: PT Remaja Rosdakarya, 2018); Albi Anggito & SetiawanJohan, *Metodologi Penelitian Kualitatif* (Jawa Barat, 2018).

<sup>12</sup> Gema Bangsawan, "Kebijakan Akselerasi Transformasi Digital Di Indonesia: Peluang Dan Tantangan Untuk Pengembangan Ekonomi Kreatif," *Jurnal Studi Kebijakan Publik* 2, no. 1 (2023): 27-40, <https://doi.org/10.21787/jskp.2.2023.27-40>; R. Nugroho, *Transformasi Digital: Strategi Dan Kebijakan Nasional* (Jakarta: Gramedia Pustaka Utama, 2022).

generations.<sup>13</sup> Digitalization has created a huge opportunity for preserving local culture. Through various digital platforms such as social media, websites, YouTube, podcasts, and mobile applications, various cultural elements – whether in visual, audio, or text form – can be easily documented, stored, and shared with a wider audience.<sup>14</sup> Not only domestically, but also globally. Culture that used to only be witnessed directly in limited space and time, can now be enjoyed, studied, and even studied more widely by the world community.

However, digital transformation also brings its own challenges and potential threats to the sustainability of local culture.<sup>15</sup> Digital globalization creates a space for rapid and massive cultural exchange. Popular culture from developed countries, such as Western lifestyles, K-Pop music, to fashion trends and other digital consumption, easily penetrates into remote villages, including indigenous community areas.<sup>16</sup> Younger generations who are more connected to the internet are often more familiar with global digital culture than with their own local traditions. This leads to symptoms of erosion of local cultural identity, as well as the younger generation's disinterest in ancestral heritage that is considered old-fashioned and irrelevant.

In this context, it is important to see digital transformation not merely as a threat, but also as a strategic opportunity to revive local culture.<sup>17</sup> Digital technology, if used wisely and participatively, can be a very effective tool for preserving local wisdom values, strengthening community cultural identity, and building new narratives about the importance of traditional culture amidst

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<sup>13</sup> Roni Susanto et al., "Interreligious Harmonization (Analytic Study of Kalicinta Village, Kotabumi, Lampung)," *Jurnal Kodifikasi: Jurnal Penelitian Keagamaan San Sosial-Budaya* 17, no. 1 (2023), <https://doi.org/http://dx.doi.org/10.21154/kodifikasi.v17i1.5729>.

<sup>14</sup> Fatakhul Huda Roni Susanto, "Education as an Agent of Social Change: A Sociological Perspective," *Taqorrub: Jurnal Bimbingan Konseling Dan Dakwah* 5, no. 2 (2024): 79–94, <https://scholar.google.com/scholar?oi=bibs&cluster=16197885558079716437&btnI=1&hl=id>.

<sup>15</sup> Istialdi Pratama Haris et al., "Tren Terkini Dalam Ilmu Komunikasi Di Indonesia: Antara Transformasi Digital Dan Dinamika Budaya," *Filosofi : Publikasi Ilmu Komunikasi, Desain, Seni Budaya* 1, no. 1 (2024): 140–49, <https://doi.org/10.62383/filosofi.v1i1.73>.

<sup>16</sup> Hardiyanti, Mahading, and Rayyan, "Transformasi Digital Warisan Budaya Loka: Pemertahanan Dan Pelestarian Nilai Kearifan Lokal Di Kawasan Teluk Tomini"; Aldi Syahputra<sup>1</sup> et al., "Penerapan Pancasila Di Dalam Era Digital," *Seminar Nasional & Call For Paper Hubisintek*, 2023, 816–27.

<sup>17</sup> Jokhanan Kristiyono and Rachmah Ida, "Digital Etnometodologi: Studi Media Dan Budaya Pada Masyarakat Informasi Di Era Digital," *Ettisal : Journal of Communication* 4, no. 2 (2019): 109, <https://doi.org/10.21111/ejoc.v4i2.3590>; Ilya Levin and Dan Mamluk, "Culture and Society in the Digital Age," *Information (Switzerland)* 12, no. 2 (2021): 1–13, <https://doi.org/10.3390/info12020068>.

modernization.<sup>18</sup> Indigenous communities in Kalimantan provide an interesting example of how local cultures can survive and even thrive amidst the rapid flow of digitalization. Indigenous groups such as the Dayak Kenyah, Dayak Ngaju, and Dayak Iban have started various digital initiatives aimed at documenting and disseminating their cultural richness. Although many indigenous communities in Kalimantan still face limitations in digital infrastructure such as unstable internet connections or limited technological devices, there is a collective spirit to use available technology to preserve their ancestral heritage.

In several Dayak Kenyah traditional villages in East Kalimantan, the younger generation actively uses smartphone cameras to record traditional ceremonies, making traditional musical instruments such as sape, and daily activities that are full of cultural values. These videos are then uploaded to platforms such as YouTube, Facebook, and TikTok as a form of documentation and promotion. Not infrequently, these videos receive attention from outsiders, including academics, tourists, and other cultural communities. This shows that local culture, when packaged creatively and authentically, has its own appeal in the midst of a digital world full of fast-food content. In addition, social media has also become a new cultural showcase for indigenous communities. The community's Instagram and Facebook accounts are used to display photos of traditional clothing, handicrafts, traditional food, and short narratives about the philosophy and values behind their traditions. This is not only a documentation medium, but also an educational medium that introduces culture to their own younger generation who are more familiar with the digital world. In fact, there are local initiatives that have begun to develop regional language podcasts to read folk tales or explain the meaning of traditional symbols. This is a form of adaptive and progressive cultural innovation.

Another major opportunity of digital transformation is the development of digital archives of culture.<sup>19</sup> Indigenous communities can digitally store various important documents such as family trees, maps of customary areas, folklore, traditional songs, and customary agreements. With a good digital archiving system, this cultural information will not be lost over time and can be accessed at any time for educational, research, or cultural identity regeneration purposes. Several communities have also begun using digital technology to develop learning applications for mother tongues that are threatened with extinction, such as the Dayak Kanayatn and Maanyan languages. However, it must be realized that not

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<sup>18</sup> Roni Susanto and d Afif Ulin Nuhaa Muhamma, "Transformasi Budaya Islam Nusantara Di Tengah Tantangan Modernitas: Peran Nahdatul Ulama," in *Trajectory Visi Kemanusiaan Sarjana NU* (Publica Indonesia Utama, 2024), 468-77.

<sup>19</sup> Kateryna Darovanets, "The Digital Era: From Transformation of Culture To Changes in Its Popularization," *Culturological Almanac* 2, no. 2 (2024): 344-50, <https://doi.org/10.31392/cult.alm.2024.2.42>.

all cultural digitization has a positive impact. There is a risk of commercialization of culture without the consent of indigenous communities, unethical use of cultural content by outsiders, or the dissemination of inaccurate information about local traditions. Therefore, cultural digitization needs to be carried out with the principles of caution, ethics, and actively involving indigenous communities in every stage of the digitization process—from planning, content production, to distribution.

In facing this challenge, the role of the younger generation of indigenous communities becomes very strategic. They are the bridge between the world of tradition and the digital world.<sup>20</sup> With their digital capacity, they can become agents of change that elevate local culture to the national and international stage. They also play an important role in educating fellow young generations that ancestral culture is not something obsolete, but rather a valuable asset that can be a source of creativity, pride, and even a creative economy.<sup>21</sup> Furthermore, collaboration between indigenous communities, non-governmental organizations (NGOs), academics, government, and the private sector is needed to expand access and strengthen digital cultural preservation initiatives. Local governments can play a role in providing internet infrastructure and digital literacy training; campuses can contribute expertise in cultural documentation and research; while NGOs can become facilitators of long-term training and mentoring. This collaboration must be based on respect for local cultural sovereignty, with the principle of “from the community, by the community, for the community.”

Based on the explanation above, it can be concluded that digital transformation has two opposing sides: it can be a threat or an opportunity for the preservation of local culture. What is decisive is not the technology, but how the technology is used. Indigenous communities in Kalimantan show that with the spirit of mutual cooperation, creativity, and adaptation, digital technology can be a bridge connecting the past, present, and future of culture. This is a form of intelligent cultural resistance to global homogenization, as well as proof that local culture can survive and even be empowered in the ever-growing digital space.

### **Forms of Utilization of Digital Technology in Cultural Preservation**

The use of digital technology by indigenous communities in Kalimantan has opened up new opportunities in maintaining the sustainability of local culture. One real form of this transformation is the digitalization of traditional ceremonies and rituals.<sup>22</sup> The Dayak Kenyah community, for example, has begun actively

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<sup>20</sup> DAVID GOUVERNEUR, “Towards an Informal Real and Digital World,” *ITRUVIO: International Journal of Architectural Technology and Sustainability* 8, no. 2 (2023).

<sup>21</sup> Roni Susanto, “Penerapan Metode Musyafahah Dalam Menjaga Autentisitas Qiraat Sab’ah (Studi Analisis Di PPTQ Al-Hasan Ponorogo Dan PP Al-Munawwir Krapyak)” (IAIN Ponorogo, 2024), <http://etheses.iainponorogo.ac.id/id/eprint/29381>.

<sup>22</sup> Roni Susanto, “Education as an Agent of Social Change: A Sociological Perspective.”

recording various important traditional activities such as fulfillment ceremonies, hudoq dances, and rituals for welcoming important guests. This documentation process is carried out using smartphone cameras and simple video devices available in the community environment.<sup>23</sup> The results of this documentation are then uploaded to platforms such as YouTube, not only as a form of long-term preservation, but also as a cultural promotion medium that can be accessed by the wider community, including the younger generation who are more familiar with digital media.

In addition, social media is used strategically as a cultural showcase by various indigenous communities.<sup>24</sup> Dayak community Instagram and Facebook accounts, for example, have been used to display photos of cultural activities, handicraft exhibitions such as wood carvings and rattan weaving, and quotes on local wisdom packaged in an attractive visual style. This approach makes social media a means to reach the younger generation who are more active in cyberspace, while introducing local culture to a global audience, including tourists, academics, and the Kalimantan diaspora. Social media thus becomes a new cultural space that bridges traditional values with the development of modern communication technology.

No less important, various community-based multimedia training initiatives have also emerged. Several Non-Governmental Organizations (NGOs) have collaborated with local traditional and youth figures to organize digital skills training such as video making, editing, shooting, and digital storytelling techniques.<sup>25</sup> This training encourages indigenous communities to not only become objects that are covered or documented, but also become active subjects who are able to create their own cultural narratives. This ability is very important in strengthening local cultural authority and presenting authentic points of view in every digital content produced.

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<sup>23</sup> Widodo Wahyu, Roni Susanto, and Hidayat Deden, "The Meaning Of Trust In Surat Al-Ahzab Verse 72 The Perspective Of Sheikh Ustman Al-Khubawi," *Proceeding of the 3rd FUAD's International Conference on Strengthening Islamic St* 03, no. 01 (2023), <https://garuda.kemdikbud.go.id/journal/view/26897#>!

<sup>24</sup> Yuni Herdiyanti, Miftakul Janah, and Roni Susanto, "Building a Golden Generation : Synergy of Education , Technology , and Qur ' Anic Values," *JISEI: Journal of Islamic Studies and Educational Innovation* 01, no. 01 (2025): 36–48; Robbin Dayyan Yahuda and Roni Susanto, "Implementation of Holistic Islamic Education Purposes Based 'totally Moslem Truly Intelectual' in Iain Ponorogo Postgraduate Program 2022," 2022; Roni Susanto and Sugiyar, "Implementation of Mutammimah Book Learning on the Reading Ability of Kutub Al-Turats at Madrasah Riyadlotusy Syubban Ponorogo," *Edukasi Lingua Sastra* 21, no. 1 (2023): 207–2017, <https://doi.org/https://doi.org/10.47637/elsa.v21i2.667>.

<sup>25</sup> Akhmad Al Aidhi et al., "Peningkatan Daya Saing Ekonomi Melalui Peranan Inovasi," *Jurnal Multidisiplin West Science* 2, no. 02 (2023): 118–34, <https://doi.org/10.58812/jmws.v2i02.229>.

Digital innovation has also spread to the development of local digital applications and archives. Various forms of non-physical cultural heritage such as folklore, regional songs, and local languages have begun to be documented in the form of e-books, podcasts, and even interactive learning applications. Several communities in Kalimantan have developed digital content in the Dayak Ngaju or Dayak Kanayatn languages, as an effort to preserve their mother tongues, whose existence is now increasingly threatened. By utilizing digital technology, indigenous communities have succeeded in creating a space for preserving culture that is inclusive, dynamic, and relevant to the challenges of the times.

### **Challenges in Implementing Digital Technology**

Although the use of digital technology brings great opportunities for preserving local culture, its implementation among indigenous communities in Kalimantan still faces a number of serious challenges. One of the main obstacles is limited infrastructure. Many inland areas of Kalimantan, where indigenous communities such as Dayak Kenyah, Dayak Ngaju, or Dayak Iban live, have not been reached by a stable internet network. Even in some areas, access to electricity is still limited and inconsistent. This condition makes it difficult to use digital devices and upload content to online platforms routinely. This limited infrastructure also has an impact on the low digital connectivity of communities with the outside world, thus hampering the expansion of the reach of local culture to the national or global level.

The next challenge is low digital literacy, especially among the older generation.<sup>26</sup> Many traditional figures who are the keepers of local cultural knowledge are not yet accustomed to using digital devices such as cameras, computers, or smartphones. In some cases, there is even a distrust of technology because it is considered a foreign cultural product. Although the younger generation in the community is more "digitally literate", they still face limitations in technical skills and the use of technology for strategic cultural purposes. Digital literacy here is not only about the ability to operate devices, but also includes an understanding of digital ethics, content editing, intellectual property rights protection, and appropriate cultural narratives. This generation gap and limited capacity are challenges in the process of digital cultural inheritance.<sup>27</sup>

In addition, the lack of ongoing support is an obstacle that often hinders the sustainability of cultural digitalization programs. Some training programs or

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<sup>26</sup> Khomsinuddin et al., "Modernitas Dan Lokalitas: Membangun Pendidikan Islam Berkelanjutan," *Journal of Education Research* 5, no. 4 (2024): 4418–28, <https://jer.or.id/index.php/jer/article/view/1523>; Muhammad Yasir Yusuf, *Islamic Corporate Social Responsibility* (Depok: Kencana, 2017).

<sup>27</sup> Roni Susanto, Wahyu Widodo, and Nur Kolis, "The Implication of the Sima'an Ahad Pahing on the Qur'an Memorization at PPTQ Al-Hasan Ponorogo," *Al-Adabiya: Jurnal Kebudayaan Dan Keagamaan* 18, no. 2 (2023): 125–32, <https://doi.org/10.37680/adabiya.v18i2.2396>.

digital device assistance launched by NGOs or the government are short-term and not designed to support communities in the long term. After the initial training is completed, many communities experience confusion when facing technical obstacles or needing technology updates. Without consistent support, the initial enthusiasm for digitizing culture tends to weaken, and many digital initiatives end up stopping midway. This shows the importance of the role of local partners who understand community dynamics and are able to bridge between tradition and technology contextually.

Furthermore, the digitalization of culture also presents challenges in the form of commercialization and misrepresentation. When local cultural content is published in the digital space, there is a risk of misuse by outsiders who do not understand the cultural context. Traditional rituals, sacred symbols, or folklore can be misinterpreted, simplified, or even commercialized without the permission of the community. This is not only morally detrimental, but also has the potential to damage the original meaning of the culture itself. Therefore, there is an urgent need to formulate a digital code of ethics based on custom, which can protect the cultural rights of indigenous communities in the digital world. This code of ethics can include the principle of community consent (free, prior and informed consent), limitations on access to sacred content, and protection against cultural plagiarism.

Thus, while digital technology offers great opportunities in preserving local culture, structural, social and ethical challenges must be addressed simultaneously and sensitively to local values. A sustainable, inclusive and participatory approach is needed so that digital transformation can truly become a tool for cultural empowerment, not a tool for cultural domination or distortion.

## CONCLUSION

This study concludes that digital technology can play a significant role in preserving local culture if utilized in a participatory, ethical, and sustainable manner by the indigenous communities themselves. The Dayak community in Kalimantan shows that despite facing limitations in infrastructure and digital literacy, they are able to develop digital innovations in the form of ritual documentation, media training, and archiving of language and folklore. Challenges such as cultural commercialization, misrepresentation, and limited external support must be addressed with collaborative strategies between communities, NGOs, academics, and the government. The community-based digital empowerment model offered in this study is an important contribution in encouraging inclusive, adaptive, and contextual preservation of local culture in the digital era. Further researchers are advised to expand the scope of the study to other indigenous communities in Kalimantan or other regions of the archipelago, such as Nusa Tenggara, Papua, and Maluku, in order to obtain a more comprehensive understanding and comparison between regions regarding cultural digitalization.

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