

Bridging Artifact and Digital Content Management: Challenges in the National Museum of Korean Contemporary History

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Abstract

This paper examines the challenges faced by contemporary history museums in managing collections that blur boundaries between physical artifacts and digital content. The National Museum of Korean Contemporary History (NMKCH) serves as a case study, revealing tensions between traditional Korean heritage management systems and contemporary collecting requirements. The December 2024 martial law crisis demonstrates how historical events manifest simultaneously through physical protests and digital activism, creating hybrid materials that resist traditional categorization. Analysis reveals that bifurcated management systems fragment historical records and impede comprehensive documentation. While technical solutions offer operational improvements, fundamental conceptual shifts are needed in museum practice. NMKCH's planned Center for Contemporary History Collections and Archives (2030) represents institutional recognition of these challenges, proposing integrated approaches to contemporary history documentation. This research contributes to understanding collection management practices for hybrid materials in the digital age.

1. Introduction

Contemporary history museums worldwide face unprecedented challenges in managing collections that increasingly blur boundaries between physical artifacts and digital content. Unlike traditional museums handling objects with centuries-old provenance, institutions documenting recent history grapple with inherently hybrid materials where physical manifestations and digital expressions of the same historical moment exist simultaneously and are intrinsically interconnected.

The National Museum of Korean Contemporary History (NMKCH), established in 2012, exemplifies this global challenge while presenting unique characteristics rooted in Korea's distinctive heritage management framework. As one of few national museums dedicated exclusively to contemporary history, NMKCH operates within a cultural heritage system originally designed for traditional Korean artifacts, creating fundamental tension between institutional infrastructure and collection requirements.

This tension became particularly evident during the museum's approach to documenting recent historical events, where traditional cataloging systems prove inadequate for capturing complex relationships between physical protest materials and their digital counterparts. The December 2024 martial law crisis and subsequent civic responses present a compelling case study, as the same historical moment manifested simultaneously through physical demonstrations involving candles, placards, and printed materials, alongside extensive digital campaigns across social media platforms, online videos, and hashtag movements.

The significance extends beyond the Korean context to contemporary history museums globally. As digital technologies reshape how societies express political engagement and cultural identity, institutions must confront how to effectively integrate management of physical artifacts and related digital content without losing essential contextual relationships that give these materials historical meaning.

This research investigates these challenges through NMKCH's experience, examining how Korea's national heritage management system—structured around traditional museological principles—encounters realities of contemporary collecting. By analyzing operational complexities arising when single historical events generate both physical artifacts requiring traditional conservation approaches and digital content demanding specialized archival frameworks, this study contributes to understanding collection management practices for hybrid materials in the digital age.

2. Literature Review

2.1 Contemporary Collecting Challenges

Contemporary history museums face unprecedented challenges documenting rapidly evolving social, political, and cultural phenomena. Unlike traditional historical museums collecting artifacts with established historical significance, contemporary history institutions must make real-time decisions about what constitutes historically significant material while events unfold. This temporal proximity creates unique methodological challenges, as historical significance may not be immediately apparent.

Digital transformation has fundamentally altered the nature of historical evidence. Social movements, political events, and cultural phenomena now manifest simultaneously across physical and digital spaces, creating "hybrid events" that cannot be fully documented through traditional collecting approaches alone. The 2011 Arab Spring, 2014 Hong Kong Umbrella Movement, and 2020 global Black Lives Matter protests exemplify events where physical demonstrations and digital activism were inseparably intertwined, requiring museums to develop new collecting strategies capturing both dimensions.

Contemporary collecting faces challenges of scale and ephemerality. Digital content proliferates at unprecedented rates, while social media platforms and digital services constantly evolve, threatening long-term accessibility of born-digital

materials. Museums must navigate between comprehensive documentation and selective curation, often making preservation decisions without full knowledge of long-term research needs or technological capabilities.

The participatory nature of contemporary history-making further complicates collecting practices. Citizens increasingly document experiences through personal digital devices, creating vast archives of informal historical records that traditional institutional collecting cannot adequately capture. This shift requires museums to develop new relationships with communities and collaborative collecting approaches respecting both institutional standards and community ownership of historical narratives.

2.2 Digital-Physical Hybrid Materials

The emergence of materials simultaneously embodying physical and digital characteristics represents a fundamental challenge to traditional museum categorization systems. These hybrid materials resist classification within established frameworks assuming clear boundaries between tangible objects and digital content. Recent scholarship highlights the inadequacy of applying either traditional museum or digital archive frameworks in isolation to materials requiring integrated management approaches.

Traditional museum collection management systems evolved over centuries to handle discrete physical artifacts, with established protocols for acquisition, cataloging, conservation, and display. These systems prioritize object-based metadata, provenance tracking, and physical preservation requirements. However, when contemporary materials incorporate digital elements—such as QR codes linking to online content, augmented reality components, or social media integration—traditional cataloging approaches struggle to capture full significance and contextual relationships.

Digital archive frameworks, emerging from library science traditions, focus on content organization, format migration, and access mechanisms rather than physical preservation. While more flexible handling born-digital materials, these systems often lack material culture perspectives necessary for understanding physical contexts and tangible qualities giving contemporary historical materials meaning.

Museum studies scholarship has been showing growing recognition that digital content possesses its own material properties requiring specialized preservation approaches. This theoretical development suggests that effective management of hybrid materials requires new frameworks accommodating both physical and digital characteristics without privileging one over the other.

Contemporary events increasingly generate materials that challenge traditional boundaries between physical and digital realms. Protest movements, for example, may produce social media campaigns that materialize as printed flyers, or digital archives that are simultaneously preserved on physical storage media. These materials require documentation strategies that can capture their multi-dimensional nature while maintaining the contextual relationships that give them historical significance.

3. Korean Heritage Management Context

3.1 Cultural Heritage Policy Framework

South Korea's cultural heritage management reflects a policy framework established during rapid modernization, combining systematic preservation imperatives with centralized administrative control. The foundation rests on the Cultural Heritage Protection Act, first enacted in 1962 and subsequently revised multiple times addressing evolving preservation challenges. This legislation establishes comprehensive classification categorizing cultural heritage into tangible cultural heritage, intangible cultural heritage, monument heritage, and folklore materials.

The policy framework's architectural foundation prioritizes traditional Korean cultural materials, with designation criteria and management protocols developed primarily for artifacts predating the modern period. This historical focus reflects the system's original purpose: preserving Korean cultural identity during periods of rapid social change and external cultural influence. Emphasis on continuity and authenticity, while serving important cultural preservation goals, creates structural challenges when applied to contemporary materials challenging traditional categories or reflecting social change rather than cultural continuity.

Korea's heritage management policy reflects unique geopolitical circumstances, particularly Korean peninsula division and resulting emphasis on cultural heritage as national identity marker. This context strengthened governmental commitment to systematic heritage preservation while potentially constraining approaches to contemporary materials documenting political dissent or social conflict. The policy framework's emphasis on systematic categorization and hierarchical organization, rooted in administrative traditions, provides strong foundations for systematic documentation but may create rigid frameworks struggling to accommodate fluid, networked nature of contemporary digital culture.

Each category within the heritage classification system operates under specific designation criteria, management protocols, and preservation requirements that reflect Korea's emphasis on systematic documentation and hierarchical classification. However, contemporary historical materials often resist these established categories, particularly when they embody both traditional and digital characteristics or challenge conventional notions of cultural value and significance.

3.2 National Museum of Korea's Standardized System

The National Museum of Korea (NMK) developed Korea's most comprehensive standardized collection management system, serving as the model for other national and public museums throughout the country. Established in 1945 and relocated to current Yongsan facility in 2005, NMK manages over 1,500,000 artifacts through sophisticated digital collection management system integrating with national cultural heritage database.

NMK's collection management framework, known as Cultural Heritage Standard Management System, represents significant technological achievement in museum informatics. The system provides comprehensive cataloging, conservation tracking, and access management capabilities designed specifically for Korean cultural materials. The system's metadata schema reflects traditional Korean art historical categories, with fields

optimized for ceramics, metalwork, paintings, calligraphy, and archaeological materials comprising bulk of Korea's designated cultural heritage.

However, system design priorities reveal limitations when applied to contemporary materials. Metadata schema emphasizes traditional art historical attributes such as dynastic period, artistic school, and material composition categories that may not adequately capture contextual complexity of contemporary historical materials. System provenance tracking mechanisms assume linear ownership histories typical of traditional artworks but struggle accommodating collaborative creation processes and distributed ownership characteristics common in contemporary social movements.

The standardized system's preservation protocols also reflect assumptions appropriate for traditional materials but potentially problematic for contemporary collections. Conservation procedures emphasize physical stabilization and environmental control appropriate for ancient ceramics and textiles, but lack frameworks for digital preservation, format migration, or the hybrid preservation requirements of contemporary materials that combine physical and digital elements. This creates particular challenges for materials like multimedia installations, or documentation projects that exist simultaneously across physical and digital platforms.

3.3 NMKCH's Position: Applying Traditional Systems to Contemporary Materials

The National Museum of Korean Contemporary History (NMKCH), established in 2012, occupies unique position within Korea's heritage management ecosystem as primary institution responsible for documenting Korean history from late 19th century to present. Unlike National Museum of Korea focusing on traditional cultural heritage, NMKCH must navigate challenge of applying Korea's standardized heritage management framework to materials often resisting traditional categorization.

NMKCH's institutional mandate requires compliance with national standardized management protocols while simultaneously addressing distinctive characteristics of contemporary historical materials. This dual requirement creates ongoing operational challenges, as staff must adapt traditional cataloging categories accommodating materials such as political campaign materials, protest documentation, digital media archives, and hybrid materials combining physical and digital elements. The museum's extensive collection encompasses traditional documents and photographs alongside multimedia installations and born-digital materials, representing the full spectrum of contemporary Korean history from the late 19th century to the present (NMKCH, 2018).

Application of traditional classification systems to contemporary materials reveals significant conceptual tensions. Contemporary historical events often involve materials challenging traditional notions of authorship, ownership, and cultural value. Social movement materials may be collectively created, constantly evolving, and explicitly intended to challenge rather than preserve existing cultural frameworks. When such materials are processed through heritage management systems designed for traditional cultural preservation, essential contextual information may be lost or distorted.

NMKCH has developed innovative workarounds to address some of these challenges, including flexible cataloging approaches and collaborative collecting initiatives. However, these solutions operate within the constraints of the national standardized system, creating additional complexity for staff and potential inconsistencies in documentation. The museum's experience illustrates broader challenges facing contemporary history institutions: the need to balance institutional compliance with innovative approaches to documenting rapidly evolving social phenomena (Lee, H., Lee, J., 2023).

The museum recognizes that effective contemporary history documentation requires new approaches integrating traditional museum practices with digital age realities while maintaining compliance with national heritage management standards. This institutional awareness of systematic limitations represents an important step toward developing more appropriate management frameworks for contemporary materials.

4. Case Study: Managing the December 2024 Martial Law Crisis Records

4.1 The Event and Its Hybrid Nature

On December 3, 2024, South Korean President Yoon Suk-yeol's unexpected martial law declaration triggered unprecedented civic response unfolding simultaneously across physical and digital spaces, creating what contemporary historians term a "hybrid historical event." The declaration, announced at 10:23 PM through emergency television broadcast, met immediate resistance from National Assembly and Korean citizens, leading to martial law revocation within approximately six hours—the shortest-lived martial law declaration in Korean history.

The event's hybrid nature manifested in seamless integration of traditional protest methods with digital-age civic engagement. Within minutes, citizens began gathering at National Assembly building in Yeouido, bringing physical materials becoming historically significant artifacts: handwritten signs, printed Constitution copies, battery-powered speakers, and thousands of candles becoming iconic resistance symbols (Kang, 2024; Ko, 2024; Lee, 2024). Simultaneously, digital activism exploded across multiple platforms, with hashtags #resign, #out, and #ImpeachYoon trending globally within hours (Choi, 2024).

Temporal compression created unique documentation challenges. Unlike historical protests developing over days or weeks, December 3rd crisis unfolded real-time with participants simultaneously creating, sharing, and preserving historical records through mobile devices. Live streaming through YouTube, Instagram, and AfreecaTV provided minute-by-minute documentation, while citizens used KakaoTalk and Telegram coordinating activities and sharing information. This created unprecedented volume of born-digital historical materials requiring immediate preservation decisions.

The event's significance extends beyond its political impact to its demonstration of contemporary civic engagement patterns. Citizens employed QR codes on physical banners to link to digital petition sites, created augmented reality filters for social media posts, and developed collaborative digital archives in real-time. These hybrid materials resist traditional categorization as either physical artifacts or digital content, instead representing new forms of historical evidence that embody both material and digital characteristics simultaneously.

4.2 Collection Management Challenges

NMKCH faced immediate complex challenges collecting and managing materials from the December 3rd martial law crisis and subsequent demonstrations, revealing limitations of bifurcated management systems applied to hybrid historical phenomena. Museum response required simultaneous activation of traditional artifact collection protocols and separate digital archive system, creating operational complications highlighting inadequacy of divided management approaches.

Physical artifacts were collected primarily in December 2024, immediately following the martial law declaration and its revocation. These materials are scheduled to be processed through the Cultural Heritage Standard Management System following established museum protocols. Collected materials include handwritten protest signs from the December demonstrations, printed constitutional texts, candles used during vigils, light sticks that demonstrated the convergence of K-pop culture with political activism among younger generations, December 4th newspapers with special editions covering the crisis, and various ephemeral materials left at protest sites including the National Assembly. However, the system's traditional cataloging framework will likely struggle to capture the temporal urgency and collaborative creation processes characterizing these materials from this intense period of civic activism.

The system's metadata schema, designed primarily for traditional cultural heritage objects, proves inadequate for contemporary protest materials from this political crisis. Fields optimized for artistic attribution, material composition, and provenance tracking cannot adequately represent the collective authorship, evolving meanings, and immediate political significance of these materials. The emphasis on cultural and artistic value inherent in the system's design sometimes conflicts with the materials' primary significance as documentation of democratic participation and civic resistance.

Meanwhile, digital content related to the December crisis was only partially collected, limited primarily to photographs and videos. The museum was unable to conduct more comprehensive digital collection that would have included social media posts documenting real-time responses to the martial law declaration, live streaming archives from that critical night and following days, hashtag campaigns that mobilized citizens, and online petition records. This limited scope of digital collection represents a significant gap in documenting the full historical significance of this democratic moment. The ephemeral nature of digital platforms made this limitation particularly regrettable: Instagram Stories and temporary social media posts disappeared within 24 hours, while live streaming content was automatically deleted by platforms after brief periods.

The existing digital archive system, operating independently from physical collection management, lacks adequate frameworks for capturing the interconnected nature of digital activism that characterized the December 2024 events. Hashtag movements, for example, created networks of related content across multiple platforms that required sophisticated preservation strategies beyond simple photo and video archiving. The system's design for capturing individual digital items cannot adequately document the dynamic relationships between posts, the rapid evolution of hashtag meanings during the crisis, or the cross-platform nature of digital campaigns.

This limited digital collection became particularly evident with materials embodying both physical and digital characteristics. Protest banners incorporating QR codes linking to digital petitions exemplified the need for integrated documentation approaches. With only partial collection of digital components, essential contextual relationships were lost, fragmenting the historical record of this significant moment in Korean democracy.

4.3 Operational Complexities

Management of December 3rd materials revealed significant operational inefficiencies inherent in NMKCH's bifurcated collection approach. Museum staff found themselves constantly switching between different software systems, metadata schemas, and preservation protocols, often duplicating effort and creating inconsistent documentation approaches.

Staff workflow inefficiencies became immediately apparent during the intensive collection period following the event. Curators responsible for physical materials worked within the Cultural Heritage Standard Management System, entering detailed provenance information, condition reports, and traditional art historical metadata. Simultaneously, archivists managing digital content used entirely different software with distinct metadata schemas, preservation formats, and access protocols. When materials required both types of documentation—as many hybrid materials did—staff had to enter information twice using different systems, often leading to inconsistencies in dating, description, and contextual information.

The temporal urgency of contemporary event documentation exacerbated these inefficiencies. Unlike traditional museum collecting, which often involves materials with established provenance and stable characteristics, contemporary crisis documentation requires rapid decision-making about preservation priorities while events are still unfolding. Staff working with two separate systems found their response time significantly slowed by the need to navigate between different interfaces and protocols.

Metadata inconsistencies emerged as a persistent problem when attempting to link related materials managed through different systems. The Cultural Heritage Standard Management System's metadata schema emphasizes traditional art historical categories such as material composition, artistic technique, and stylistic classification. When applied to protest materials, these categories often produced artificial or misleading information. A collaborative protest banner, for example, might be classified by its textile composition and printing technique, but this information provided little insight into its historical significance or relationship to associated digital materials.

The digital archive system's metadata schema, designed for content management rather than art historical documentation, emphasized different attributes such as file format, creation date, and content keywords. When attempting to establish connections between related physical and digital materials, staff found no systematic way to link materials across systems, relying instead on manual cross-referencing that was time-consuming and prone to error.

Contextual fragmentation represented perhaps the most significant challenge for historical interpretation and public presentation. The December 3rd events constituted a unified historical phenomenon, but the bifurcated management

approach inevitably fragmented the historical record. Physical materials were contextualized within traditional museum frameworks emphasizing material properties and individual object significance, while digital materials were organized according to content themes and technical characteristics.

This fragmentation created difficulties for researchers attempting to understand the full scope of the historical event. A comprehensive analysis of the December 3rd civic response required access to both physical and digital materials, but the separate systems made it difficult to identify related materials or understand their interconnections.

5. NMKCH's Challenges and Future Directions

5.1 Technical vs. Conceptual Solutions Needed

Analysis reveals challenges of contemporary collection management cannot be resolved through technical solutions alone but require fundamental conceptual shifts in how museums approach historical documentation. While technological improvements could address some operational inefficiencies, core problems stem from conceptual frameworks assuming clear boundaries between physical and digital materials.

Technical solutions improving current operations include integrated database systems enabling cross-referencing between physical and digital collections, standardized metadata schemas accommodating both material and digital characteristics, and preservation workflows addressing hybrid materials' complex requirements. Several technology companies developed museum management systems specifically designed for contemporary collecting, including solutions offering improved integration capabilities.

However, implementing technical solutions within existing conceptual frameworks may provide operational improvements without addressing underlying structural problems. NMKCH's experience suggests even sophisticated technical systems cannot resolve fundamental tension between traditional museum approaches emphasizing individual object significance and contemporary historical events requiring understanding of interconnected networks of materials across multiple media platforms.

Conceptual solutions require more fundamental changes to museum practice, including new approaches to collection scope definition, alternative models for historical significance assessment, and innovative frameworks for public interpretation that accommodate the multi-dimensional nature of contemporary events.

5.2 NMKCH's Planned Center for Contemporary History Collections and Archives

NMKCH acknowledges limitations of current collection management approaches and is planning to develop a Center for Contemporary History Collections and Archives by 2030 as a potential solution to the challenges identified. This planned facility represents important institutional recognition that effective contemporary history documentation requires new approaches transcending traditional museum frameworks (The Korean Institute of Culture Architecture, 2023).

The proposed Center envisions integrated approach to memory preservation combining traditional museum functions with digital archive capabilities, community engagement programs, and research facilities designed specifically for contemporary historical materials. Unlike current bifurcated system, the Center would operate from premise that contemporary historical events require unified documentation strategies accommodating multi-dimensional characteristics.

Key features of the planned Center include collaborative collection spaces where communities can contribute materials directly to historical documentation processes, digital preservation laboratories equipped with specialized equipment for hybrid material conservation, and research facilities designed to support scholarly investigation of contemporary historical phenomena. The Center's conceptual framework explicitly acknowledges that contemporary history documentation requires community partnership rather than traditional institutional collecting approaches.

The Center's development timeline provides an opportunity to implement lessons learned from the December 3rd case study and other contemporary collecting challenges. By 2030, the Center could serve as a model for integrated contemporary history documentation that addresses the specific challenges identified in this research. However, the Center's success will depend on NMKCH's ability to develop new professional practices and technological solutions that adequately address the conceptual challenges identified in this study.

The planning process for the Center also offers opportunities for professional development and institutional innovation that could benefit contemporary history documentation more broadly. The Center's integrated approach could provide a framework for training museum professionals in hybrid material management while developing new standards and protocols for contemporary collecting.

6. Conclusions

The analysis of NMKCH's experience managing the December 2024 martial law crisis records demonstrates the urgent need for contemporary history museums to move beyond bifurcated collection management systems toward truly integrated approaches that acknowledge the hybrid nature of contemporary historical events. The challenges revealed by this case study are not merely operational inconveniences but fundamental structural problems that compromise museums' ability to fulfill their core mission of preserving and interpreting historical phenomena for current and future generations.

The December 3rd case illustrates that contemporary historical events cannot be adequately documented through traditional frameworks that assume clear boundaries between physical and digital materials. The civic response to the martial law declaration manifested as a unified phenomenon that seamlessly integrated physical protest activities with digital activism, creating historical evidence that resists categorization within existing museum management systems. When institutions attempt to force such materials into separate management frameworks, the resulting fragmentation distorts the historical record and impedes scholarly understanding of contemporary social processes.

The Korean case provides valuable insights into the broader challenges facing contemporary history museums as they grapple with the realities of digital-age collecting. NMKCH's experience demonstrates that even well-resourced institutions operating within sophisticated national heritage frameworks struggle with the conceptual and operational challenges posed by hybrid materials. The museum's planned Center for Memory and Heritage Resources represents an important institutional response to these challenges, but its success will depend on the development of new conceptual frameworks that can accommodate the interconnected nature of contemporary historical phenomena.

This research contributes to understanding collection management practices for hybrid materials in contemporary history museums. The findings suggest that effective documentation of contemporary historical events requires more than technological improvements—it demands fundamental reconceptualization of how museums approach historical documentation in the digital age. The Korean case study provides both a warning about the consequences of inadequate contemporary collecting approaches and a foundation for developing more effective alternatives.

Future research should investigate the implementation of integrated management approaches in contemporary history museums, examining how institutions can develop the conceptual frameworks and professional practices necessary for effective hybrid material management. The success of such efforts will determine whether contemporary history museums can fulfill their essential role as custodians of historical memory in an increasingly digital world.

The stakes of this challenge extend beyond individual institutions to the broader project of historical preservation in democratic societies. As the December 3rd events demonstrate, contemporary civic engagement increasingly manifests through hybrid phenomena that require new approaches to historical documentation. Museums that fail to develop adequate frameworks for managing these materials risk losing essential evidence of how societies navigate political challenges and express democratic values in the digital age.

References

- Choi, I., 2024. Hashtags "Resign" and "Out" spread in response to Yoon's martial law declaration. *Newsis*, 4 December. https://www.newsis.com/view/NISX20241204_0002983134 (27 June 2025).
- Kang, H., 2024. 'Impeachment cheering sticks' heading to museums. *JoongAng Ilbo*, 20 December. <https://www.joongang.co.kr/article/25301497> (27 June 2025).
- Ko, N., 2024. 518 citizens' flags and cheering sticks collected for 'Democracy and Flags' exhibition. *The Hankyoreh*, 15 May. https://www.hani.co.kr/arti/society/society_general/1197625.html (27 June 2025).
- Lee, A., 2024. "To preserve like candlelight in history"... Museums receiving donations of impeachment rally cheering sticks. *JoongAng Ilbo*, 14 April. <https://www.joongang.co.kr/article/25328118> (27 June 2025).
- Lee, H., Lee, J., 2023. *National Museum of Korean Contemporary History Basic Research Service for the Establishment of Archive System*. NMKCH, Seoul, South Korea.
- NMKCH, 2018. *Guide to Registration and Management of Museum Collections*. National Museum of Korean Contemporary History, Seoul, South Korea.
- NMKCH, 2025. Archives of Modern and Contemporary History. National Museum of Korean Contemporary History. <http://archive.much.go.kr> (4 March 2025).
- The Korean Institute of Culture Architecture, 2023. *Establishing a Center for Contemporary History Collections and Archives: A Planning Study for the NMKCH*. NMKCH, Seoul, South Korea.