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# ADOPTION OF DIGITAL TECHNOLOGIES FOR THE LONG-TERM PRESERVATION OF SOCIAL MEDIA RECORDS IN MERU COUNTY PUBLIC LIBRARIES

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**Abstract**

Public libraries are mandated to serve as trusted custodians of community memory, yet in Meru County, Kenya, social media records remain largely unpreserved, risking permanent loss of contemporary heritage. This study assessed the adoption of digital technologies for the long-term preservation of social media records in public libraries in Meru County, Kenya. The study followed the Technology Acceptance Model and used a convergent parallel mixed-methods approach within a cross-sectional descriptive survey design. The target population comprised 34 library staff from four public libraries in Meru County, who were selected through census sampling. Data were collected using questionnaires and interviews and analyzed using descriptive statistics and thematic analysis. Findings revealed critically low adoption of digital technologies for the long-term preservation of social media records, with major gaps in automated archiving tools, metadata management, cloud storage, and supporting ICT infrastructure. Qualitative evidence reinforced these findings, indicating limited access to appropriate equipment, inadequate staff training, insufficient funding, and absence of specialized social media archiving software. The study concluded that public libraries in Meru County have limited capacity to effectively adopt and sustain digital technologies for the long-term preservation of social media records, placing valuable digital heritage at risk of loss and obsolescence. The study recommended adopting appropriate automated archiving, digital storage, and metadata technologies, supported by staff capacity development, adequate resources, and institutional mechanisms to ensure consistent implementation and maintenance.

**Keywords:** *Digital Technologies, adoption, long-term preservation, Social Media Records, Meru County, Public Libraries*

## 1. INTRODUCTION

Globally, digital technologies such as APIs, web archiving tools, PREMIS metadata, and OAIS-compliant repositories support the long-term preservation and accessibility of social media records (Ateka & Kwaya, 2019; CCSDS, 2016). However, adoption varies across countries due to differences in infrastructure, legislation, funding, and institutional capacity. While Scandinavian and North American institutions have more established social media archiving initiatives, many libraries in the Global South still prioritize basic digital access and community services over sophisticated preservation systems (Sarkhel, 2016; Thomson, 2016; Samiei, 2020).

In Africa, rapid growth in social media use has not been matched by adequate institutional capacity, funding, infrastructure, and preservation strategies (Owolabi et al., 2022; Altaf et al., 2021). Kenya reflects this gap, as public libraries lack coordinated approaches and resources

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for systematically preserving social media records, resulting in fragmented practices across counties (Kimutai, 2014; Musisi & Mutwiri, 2024). In Meru County, this poses a significant risk of losing contemporary digital records documenting civic engagement, community events, agricultural information, and cultural expression, underscoring the need to examine the adoption of digital technologies to ensure the long-term preservation of social media records in public libraries.

### 1.1 Problem Statement

Public libraries are expected to preserve and provide long-term access to community records, including social media content that documents governance, culture, events, and civic engagement. However, public libraries in Meru County have not adopted digital technologies to preserve social media records long term, leaving these records largely unmanaged and vulnerable to permanent loss (Mariu et al., 2025). The dynamic nature of social media, including content deletion, platform changes, and technological obsolescence, further threatens the longevity of these records (Nthoki et al., 2021), while inadequate preservation policies and practices exacerbate the problem (Mulinda, 2018; Frezza & Ferrario, 2020). This situation risks losing valuable digital heritage and highlights the need for appropriate digital technologies to support the long-term preservation of social media records in public libraries in Meru County.

### 1.2 Research Objective

To assess the adoption of digital technologies in archiving for the long-term preservation of social media records in public libraries in Meru County.

### 1.3 Research Question

To what extent have digital technologies been adopted in archiving for the long-term preservation of social media records in Meru County public libraries?

## 2. LITERATURE REVIEW

### 2.1 Empirical Review

Empirical evidence shows that adoption of digital technologies for preserving social media records remains uneven, despite the growing importance and volatility of social media content. Developed countries have more institutionalized practices, supported by specialized platforms, metadata standards, APIs, WARC formats, integrity controls, and formal retention policies (Tella et al., 2022; Tzanova, 2020). However, even well-resourced institutions face challenges such as high costs, vendor dependence, limited formal policies, and concerns about AI bias and data control (Natasha & Yan, 2025). In developing regions, adoption is more fragmented because of inadequate funding, infrastructure, and technical skills, as well as unreliable electricity and internet connectivity; some institutions rely on manual methods that compromise metadata and usability (Ibrahim et al., 2025).

African and Kenyan evidence particularly highlights institutional and infrastructural gaps. African libraries often prioritize digitization of analog collections while neglecting born-digital social media records, and many lack integrated repositories and consistent metadata practices (Masenya, 2020; Matlala et al., 2022). In Kenya, librarians recognize the historical importance of social media, but preservation initiatives remain sporadic and project-based, constrained by broadband limitations, storage costs, and inadequate technical capacity (Makori & Mauti, 2016; Ndegwa et al., 2022). Nevertheless, Kenya's growing technology sector offers opportunities to develop cost-effective, context-specific digital preservation solutions, particularly through partnerships between libraries and local technology institutions.

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### 2.2 Theoretical Review

The Technology Acceptance Model (TAM), developed by Davis (1989) explains technology adoption based primarily on Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which influence users' behavioral intentions and subsequent technology use. In relation to Adoption of Digital Technologies for the Long-Term Preservation of Social Media Records in Meru County Public Libraries, TAM provides a framework for examining how librarians' perceptions of digital preservation technologies, such as web crawlers, metadata tools, and digital repositories, influence their adoption and sustained use in preserving social media records. However, while TAM effectively explains individual technology acceptance, it may underemphasize structural factors such as inadequate infrastructure, limited funding, organizational support, and regulatory requirements. Therefore, TAM is complemented by the Records Continuum Model and Institutional Theory, which explain broader records management processes and the institutional, regulatory, and normative factors that influence the long-term preservation of social media records in public libraries in Meru County.

## 3. MATERIALS AND METHODS

This study adopted a pragmatist philosophy. The study employed a convergent parallel mixed-methods approach. In this approach, quantitative and qualitative data streams are collected simultaneously during a single research phase, analyzed independently, and then integrated during the interpretation stage to develop robust, well-justified conclusions. This study employed a cross-sectional descriptive survey design. This design was selected because it captures a snapshot of phenomena, attitudes, and practices within a defined population at a specific point in time, without manipulating variables. The study area was Meru County, targeting 32 staff across five public libraries. The study used census sampling for administrators and general library staff. Interviews and questionnaires were administered accordingly. Instruments were pre-tested in Tharaka Nithi County, with validity established through content, construct, and face checks, and reliability assessed using Cronbach's alpha and inter-rater reliability. Quantitative data were analysed using descriptive statistics (frequencies, percentages, means, standard deviations), while qualitative data underwent thematic analysis.

## 4. RESULTS AND DISCUSSION

This section presents results and discussion on the adoption of digital technologies in archiving for the long-term preservation of social media records in public libraries in Meru County.

### 4.1 Response Rate and Reliability

The study achieved an overall response rate of 91%, with 31 of the 34 questionnaires returned. Meru Town (78%), Mikumbune (88%), Gatimbi (50%), and Timau (86%) indicated that targeted respondents fully participated in these libraries. Mikumbune Library recorded an 88% response rate, with seven of the eight questionnaires distributed being returned. Overall, the study achieved a 91% response rate, with only one questionnaire not returned.

Given the use of census sampling, the 91% response rate indicates that the study captured the views of nearly the entire target population, thereby providing comprehensive empirical evidence on regulatory frameworks, the adoption of digital technologies, selection criteria, capacity building, and the preservation of social media records. A high response rate also reduces the potential for non-response bias and enhances the credibility of survey findings (Saunders et al., 2019).

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The study conducted a reliability analysis to assess the internal consistency of the items measuring the study variables. A Cronbach's Alpha coefficient of 0.70 or higher was considered indicative of acceptable internal consistency. Table 1 presents the reliability results.

**Table 1: Reliability of Data of the Study**

| Variables of the study | Cronbach's Alpha |
|---|---|
| Technological Adoption (X) | .797 |
| Preservation of Social Media Records (Y) | .848 |

As shown in Table 1, the study variables achieved Cronbach's alpha coefficients above the 0.70 threshold for acceptable internal consistency (Taber, 2018). Technological Adoption (X) recorded $\alpha = .797$, and Preservation of Social Media Records (Y) recorded $\alpha = .848$. Thus, the instrument demonstrated satisfactory to excellent internal consistency across all constructs (Zahfa et al., 2025).

### 4.2 Adoption of Digital Technologies for Archiving Social Media Records in Meru County Public Libraries

The study assessed the adoption of digital technologies for archiving and long-term preservation of social media records in Meru County public libraries. The study therefore collected both quantitative and qualitative data to examine the specific digital tools, hardware, software applications, cloud storage solutions, and metadata management systems utilized by the participating libraries to systematically capture, organize, and sustainably preserve social media records.

#### 4.2.1 Quantitative findings on digital technologies for archiving social media records in Meru County public libraries

Descriptive statistical measures, including frequencies, percentages, means, and standard deviations, were used to analyze respondents' perceptions of adopting digital technologies for archiving social media records in public libraries in Meru County. The construct was assessed through indicators relating to the use of automated archiving tools, integration with library information systems, application of metadata standards, capture of multimedia content, utilization of cloud-based storage, implementation of format migration strategies, checksum verification, regular backups, adequacy of IT infrastructure, deployment of AI-driven tools, and allocation of financial resources. A five-point Likert scale was used, where: 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4= Agree, and 5 = Strongly Agree. Table 2 presents the findings.

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**Table 2: Adoption of Digital Technologies for Archiving Social Media Records in Meru County Libraries**

| Statement (N= 31) | SD, f (%) | D, f (%) | N, f (%) | A, f (%) | SA, f (%) | Mean | Std. Dev |
|---|---|---|---|---|---|---|---|
| The library uses automated social media archiving tools (e.g., ArchiveSocial, PageFreezer) to capture posts and interactions. | 6 (19.4%) | 24 (77.4 %) | 0 (0%) | 1 (3.2%) | 0 (0%) | 1.87 | .562 |
| Archived social media records are integrated with existing library information systems. | 2 (6.5%) | 12 (38.7 %) | 10 (32.3%) | 7 (22.6%) | 0 (0%) | 2.71 | .902 |
| We apply consistent metadata standards to ensure archived social media records are retrievable and contextualized. | 4 (12.9%) | 25 (80.6 %) | 2 (6.5%) | 0 (0%) | 0 (0%) | 1.94 | .442 |
| Automated systems capture multimedia content, including images, videos, and comments. | 2 (6.5%) | 21 (67.7 %) | 6 (19.4%) | 2 (6.5%) | 0 (0%) | 2.26 | .682 |
| Our library uses cloud-based storage solutions to enhance the scalability and accessibility of archived records. | 4 (12.9%) | 26 (83.9 %) | 1 (3.2%) | 0 (0%) | 0 (0%) | 1.90 | .396 |
| The library implements format migration strategies to prevent technological obsolescence. | 4 (12.9%) | 25 (80.6 %) | 2 (6.5%) | 0 (0%) | 0 (0%) | 1.94 | .442 |
| Checksum verification mechanisms maintain record authenticity and integrity. | 2 (6.5%) | 29 (93.5 %) | 0 (0%) | 0 (0%) | 0 (0%) | 1.94 | .250 |
| Regular backups prevent loss of archived social media records. | 1 (3.2%) | 16 (51.6 %) | 6 (19.4%) | 8 (25.8%) | 0 (0%) | 2.68 | .909 |
| The library leverages cloud-based storage solutions to scale its social media archives. | 1 (3.2%) | 28 (90.3 %) | 2 (6.5%) | 0 (0%) | 0 (0%) | 2.03 | .315 |
| The IT infrastructure (servers, storage, bandwidth) adequately supports digital preservation activities. | 2 (6.5%) | 25 (80.6 %) | 3 (9.7%) | 1 (3.2%) | 0 (0%) | 2.10 | .539 |
| AI-driven tools are employed to support search, indexing, or categorization of archived social media content. | 3 (9.7%) | 26 (83.9 %) | 2 (6.5%) | 0 (0%) | 0 (0%) | 1.97 | .407 |
| Adequate financial resources are allocated for social media preservation technologies. | 5 (16.1%) | 24 (77.4 %) | 2 (6.5%) | 0 (0%) | 0 (0%) | 1.90 | .473 |

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The findings in Table 2 indicate a very low level of adoption of digital archiving technologies in Meru County public libraries. Most respondents reported the absence of automated social media archiving tools (30, 96.8%; M = 1.87, SD = 0.562), checksum verification (29, 93.5%; M = 1.94, SD = 0.250), cloud-based storage (29, 93.5%; M = 2.03, SD = 0.315), and AI-driven content management tools (29, 93.5%; M = 1.97, SD = 0.407). The low means (1.87–2.71) and standard deviations (0.250–0.909) indicate strong agreement that these technologies are largely absent.

Metadata management, infrastructure, and funding were also major weaknesses. A total of 29 (93.5%) respondents disagreed that consistent metadata standards are applied (M = 1.94, SD = 0.442), while 27 (87.1%) reported inadequate IT infrastructure (M = 2.10, SD = 0.539) and 29 (93.5%) indicated inadequate financial resources (M = 1.90, SD = 0.473). These findings suggest that limited infrastructure and funding constrain the libraries' capacity to implement effective digital preservation practices.

However, some basic practices were present but inconsistently implemented. Regular backups had a relatively higher mean (M = 2.68, SD = 0.909), with 8 (25.8%) respondents agreeing that they were conducted, while system integration recorded the highest mean (M = 2.71, SD = 0.902), with 7 (22.6%) agreeing. Overall, the findings show that the libraries remain at an early stage of digital technology adoption, consistent with the Technology Acceptance Model (TAM), in which limited perceived usefulness, ease of use, training, and infrastructure may hinder adoption.

### 4.2.2 Qualitative findings on digital technologies for archiving social media records in Meru County public libraries

Interviews with administrators and staff reveal a profound technological and institutional deficit in adopting digital technologies for social media archiving. Administrators described rudimentary workflows reliant on personal devices: "we use our own phone to capture" (Administrators 01, 03), while Meru Town reported, "computers to store and phone to capture." Reliance on personal phones compromises the integrity, authenticity, metadata, and security of records, and risks loss if devices are damaged or replaced (Wong & Chiu, 2024).

Storage practices were equally ad hoc. Administrators noted, "we just use our computers to store," reflecting the absence of automated tools, cloud solutions, or institutional repositories. This exposes records to deletion, hardware failure, and format obsolescence, consistent with Ndegwa et al. (2022) who identified "great inadequacies in the IRs' capabilities to support long-term preservation." None of the libraries used specialized archiving platforms, metadata standards (e.g., PREMIS), or OAIS-compliant repositories. Administrator 03 admitted, "The library has no specialized social media archiving software," echoed by Administrators 01 and 02, while Administrator 04 responded vaguely, "maybe software." Without dedicated platforms, libraries cannot systematically capture dynamic content or preserve contextual metadata (Ndegwa et al., 2023).

Staff reinforced these deficits, citing "lack of equipment," "poor equipment with low storage space," and "outdated computers almost obsolete." Others emphasized challenges in "retrieval, capturing & storage system" and insisted, "The IT infrastructure should be current due to changes in technology." Financial constraints were repeatedly noted: "inadequate funding," "inadequate resources," and "inadequate funding, insufficient ICT infrastructure, legal & copyright issues." These findings align with African literature identifying scarce funding as a major barrier to digital preservation.

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Human capacity was another critical weakness. Staff reported "lack of technical skills," "lack of training for staff," and one stressed, "First we should be trained how to preserve those records effectively." Consistent with the Technology Acceptance Model (TAM), inadequate training reduces perceived ease of use and inhibits adoption. Policy and institutional support were also lacking. Staff cited "lack of policies on preservation," "No guidelines," "copyright issues," and "limited management support." These concerns mirror the broader literature on the absence of preservation policies, weak institutional commitment, and unresolved copyright/privacy issues.

### 4.2.3 Convergence of quantitative and qualitative findings on digital technologies for archiving social media records in Meru County public libraries

The integrated findings reveal systemic barriers to digital archiving in Meru County public libraries, with quantitative and qualitative evidence converging on four key challenges: inadequate technological infrastructure, limited funding, skills gaps, and weak policy support. Most staff reported the absence of automated archiving tools (30, 96.8%; M = 1.87, SD = 0.562), checksum verification (29, 93.5%; M = 1.94, SD = 0.250), adequate funding (29, 93.5%; M = 1.90, SD = 0.473), and sufficient IT infrastructure (27, 87.1%; M = 2.10, SD = 0.539). Administrators reinforced these findings by citing outdated equipment, a lack of specialized software, and insufficient ICT resources.

Skills and policy deficiencies further constrain preservation capacity. A total of 29 (93.5%) respondents disagreed that consistent metadata standards were applied (M = 1.94, SD = 0.442), while staff and administrators reported limited training, lack of guidelines, and ad hoc preservation practices. Overall, the findings converge to show that digital archiving remains weak because of interconnected technological, financial, human-resource, and institutional constraints. Consistent with Institutional Theory, the absence of clear policies and institutional support has left social media preservation insufficiently prioritized, highlighting the need for investment in infrastructure, staff training, metadata standards, and formal preservation policies.

## 4.3 Quantitative findings on preservation of social media records in Meru County public libraries

For quantitative findings, descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to analyze respondents' perceptions of social media record preservation in Meru County public libraries. The construct was assessed through indicators such as the growth in the volume of preserved records, sustainability and adaptability of preservation strategies, clarity of retention periods, accessibility and retrieval efficiency, user feedback, adherence to best practices, maintenance of integrity and authenticity, implementation of data migration and format updates, robustness of storage and backup systems, and integration of preserved records into broader knowledge management frameworks. A five-point Likert scale was used, where: 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4= Agree, and 5 = Strongly Agree. Table 3 presents the findings.

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**Table 3: Preservation of Social Media Records in Meru County Public Libraries**

| Statements (N= 31) | SD, f (%) | D, f (%) | N, f (%) | A, f (%) | SA, f (%) | Mean | Std. Deviation |
|---|---|---|---|---|---|---|---|
| The volume of social media records that the library has preserved has increased over time. | 7 (22.6%) | 24 (77.4%) | 0 (0%) | 0 (0%) | 0 (0%) | 1.77 | .425 |
| Existing preservation strategies are sustainable and adaptable to technological change. | 1 (3.2%) | 2 (6.5%) | 7 (22.6%) | 20 (64.5%) | 1 (3.2%) | 3.58 | .807 |
| Retention periods for social media records are clearly defined and implemented. | 1 (3.2%) | 22 (71.0%) | 6 (19.4%) | 1 (3.2%) | 1 (3.2%) | 2.32 | .748 |
| Archived social media records are easily accessible through digital platforms. | 2 (6.5%) | 27 (87.1%) | 1 (3.2%) | 1 (3.2%) | 0 (0%) | 2.03 | .482 |
| Retrieval systems enable users to locate preserved social media records efficiently. | 2 (6.5%) | 27 (87.1%) | 2 (6.5%) | 0 (0%) | 0 (0%) | 2.00 | .365 |
| We receive positive feedback from users regarding their access to and use of preserved social media content. | 3 (9.7%) | 26 (83.9%) | 2 (6.5%) | 0 (0%) | 0 (0%) | 1.97 | .407 |
| The library adheres to recognized best practices in digital preservation. | 3 (9.7%) | 27 (87.1%) | 1 (3.2%) | 0 (0%) | 0 (0%) | 1.94 | .359 |
| The integrity and authenticity of preserved social media records are well maintained. | 4 (12.9%) | 26 (83.9%) | 1 (3.2%) | 0 (0%) | 0 (0%) | 1.90 | .396 |
| Data migration and format updates are conducted regularly to ensure continued accessibility. | 3 (9.7%) | 27 (87.1%) | 1 (3.2%) | 0 (0%) | 0 (0%) | 1.94 | .359 |
| Our archival system has redundant storage and robust backups to mitigate the risk of data loss. | 3 (9.7%) | 27 (87.1%) | 1 (3.2%) | 0 (0%) | 0 (0%) | 1.94 | .359 |
| Preserved social media records are well-integrated into the library's broader knowledge management framework. | 4 (12.9%) | 23 (74.2%) | 3 (9.7%) | 1 (3.2%) | 0 (0%) | 2.03 | .605 |

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Table 3 shows that twenty-one (67.7%) respondents agreed that existing strategies are sustainable and adaptable to technological change (M = 3.58, SD = 0.807). However, accessibility and retrieval remain major weaknesses, with 29 (93.5%) disagreeing that archived records are easily accessible (M = 2.03, SD = 0.482) and that retrieval systems support efficient location (M = 2.00, SD = 0.365). The low standard deviations indicate strong consensus that existing systems are inadequate.

Adherence to digital preservation best practices is also very low. Thirty (96.8%) respondents disagreed that recognized preservation standards are followed and that regular data migration and format updates are conducted (M = 1.94, SD = 0.359). Similarly, 30 (96.8%) reported that records are not adequately maintained (M = 1.90, SD = 0.396) and that redundant storage and backups are lacking (M = 1.94, SD = 0.359), exposing archived records to loss, obsolescence, and integrity risks.

Overall, the findings reveal a clear gap between perceived sustainability and actual preservation practices. While sustainability recorded a relatively high mean (M = 3.58), other indicators ranged from 1.77 to 2.32, suggesting systemic weaknesses in capture, organization, accessibility, and long-term preservation. The Records Continuum Model and Technology Acceptance Model help explain these gaps, highlighting the need for preservation standards, staff training, adequate resources, reliable retrieval systems, data migration, and institutional support.

### 4.3.1 Qualitative Findings on preservation of social media records in Meru County public libraries

The qualitative findings on preserving social media records in Meru County public libraries reveal four interrelated vulnerabilities: technological and infrastructural weaknesses, cybersecurity threats, legal and regulatory challenges, and policy deficits. Technological vulnerabilities were most prominent. Administrators cited “outdated equipment” and “very few” devices (Administrator 04), while staff reported “storage limitations” (Staff 2), “poor storage system” (Staff 4), “outdated equipment that makes the documents get lost” (Staff 7), and “No backups done regularly” (Staff 4). Staff 1 added “Lack of backup.” These deficiencies expose records to hardware failure, accidental deletion, and media degradation, consistent with research identifying “outdated ICT equipment” and “technological obsolescence” as major risks.

Cybersecurity threats were repeatedly emphasized: “Cyber security threats” (Staff 2), “Cyber security” (Staff 5, 6, 10), and “cybersecurity” (Staff 9). Such risks are critical given malicious attacks and platform policy changes that restrict API access or impose prohibitive costs, threatening long-term access to cultural heritage.

Legal and regulatory gaps further undermine preservation. Staff cited “Legal and regulatory challenges” (Staff 2), “legal & copyright issues” and “Poor record management policies” (Staff 4), while Meru Town identified “lack of specialized preservation policies.” The absence of clear guidance on copyright, data protection, and privacy exposes libraries to liability and complicates ethical management.

These vulnerabilities culminate in risks of permanent loss. Staff reported “Permanent loss of those records” (Staff 1, 2, 7), “Loss & manipulation of content” (Staff 4), and “Loss of records” (Staff 6), attributing this to “wrong preservation methods” and “poor storage system.” Research warns that “almost 4 in 10 webpages can disappear within about 10 years, and 1 in 5 posts … within months,” underscoring the urgency of systematic preservation.

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The results show the Records Continuum Model is disrupted: inadequate infrastructure, backups, cybersecurity, and policies compromise the create, capture, organize, and pluralize dimensions. The Technology Acceptance Model suggests outdated technologies and limited capacity undermine perceived usefulness and ease of use. Institutional Theory highlights the absence of coercive, normative, and mimetic pressures needed to stimulate change.

Administrators identified three strategic interventions: (1) investment in digital-preservation infrastructure "invest in digital preservation infrastructure" (Administrator 01); (2) development of formal social media records-management policies "develop formal social media records management policies" (Administrators 02, 03); and (3) collaboration with the Kenya National Archives and Documentation Service (KNADS) and county government to secure dedicated budgets (Administrator 01). These recommendations directly address quantitative findings: 100% of staff reported no training workshops, 96.8% reported no dedicated budgets, and 96.8% lacked confidence in digital-preservation abilities.

The findings show that sustainable preservation requires a holistic strategy that integrates infrastructure investment, formal policy development, dedicated funding, and institutional collaboration. Such interventions would restore continuity across the RCM dimensions, facilitate technology adoption under TAM, and strengthen institutional pressures for change.

### 4.3.3 Convergence of quantitative and qualitative findings on preservation of social media records in Meru County public libraries

The convergence of quantitative and qualitative findings revealed systemic inadequacies in preserving social media records in Meru County public libraries. Although 67.7% of staff perceived existing preservation strategies as sustainable ($M = 3.58$, $SD = 0.807$), administrators reported outdated and inadequate equipment, indicating a gap between perceived sustainability and actual infrastructural capacity. Access and retrieval were also inadequate, with 93.5% of respondents reporting that archived records were neither accessible nor efficiently retrievable. Similarly, 96.8% reported non-adherence to recognized preservation standards, lack of data migration, and inadequate maintenance of record integrity. These findings are consistent with Zinaman (2024), who highlights technological and resource constraints affecting digital preservation, and Vlassenroot et al. (2025), who identify accessibility as a major challenge in digital archiving.

The findings further revealed major risks, including cybersecurity threats, permanent loss of records, lack of backups, and legal and regulatory challenges. Administrators therefore recommended investing in digital preservation infrastructure, developing formal social media records management policies, building staff capacity, collaborating with the Kenya National Archives and Documentation Service, and securing dedicated funding. These recommendations reflect the need to address resource limitations, technical capacity, and copyright and privacy concerns identified by Wong and Chiu (2025) and Marquet and Walz 2025). Overall, the convergence demonstrates that preservation practices remain inadequate despite relatively positive staff perceptions. Consistent with the Technology Acceptance Model (Davis, 1989) and Institutional Theory (DiMaggio & Powell, 1983), effective digital preservation requires appropriate technology, user capacity, institutional support, and formal policies to ensure the long-term accessibility, integrity, and authenticity of social media records.

## 5. CONCLUSION

The study concluded that the sustainable preservation of social media records in public libraries in Meru County remains constrained by interconnected technological, financial, human resource, and policy challenges. Libraries lack adequate infrastructure, specialized archiving technologies, staff capacity, and clear institutional frameworks needed for effective long-term preservation. These constraints weaken the ability to capture, manage, secure, retrieve, and maintain social media records, thereby increasing the risk of loss and obsolescence. Sustainable preservation therefore requires an integrated institutional approach combining investment in appropriate technologies and infrastructure, continuous staff capacity building, adequate funding, and clear preservation policies and standards.

## 6. RECOMMENDATIONS

The County Government should allocate sustained budgets for infrastructure, including automated archiving tools, cloud storage, and modern ICT equipment. Library management must establish formal policies with clear roles and enforcement mechanisms. Targeted staff capacity-building programs should emphasize digital curation, metadata standards, ethical handling, and archiving software. Collaboration with ICT professionals and local tech hubs should leverage expertise and open-source solutions. KNLS and KNADS must provide technical guidance and ongoing support. Libraries should institute monitoring and evaluation mechanisms to track practices, upgrades, and continuous improvement.

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