

People's Voice: How Does the Public Perceive the Impact of Generative Artificial Intelligence on Galleries, Libraries, Archives, and Museums

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ABSTRACT

Generative AI (GenAI) has grown in popularity in recent years, with integration within many service areas, including GLAM institutions (Galleries, Libraries, Archives, and Museums). As implementation continues, discussions across social media have reflected both enthusiasm and concern of GenAI use. This study investigates the public discussion and sentiment surrounding GenAI within GLAM contexts on the social media platform X (formerly Twitter). We collected posts related to GenAI and GLAM topics from X between November 1, 2022, and December 31, 2024, and conducted topic modeling and sentiment analysis to explore the nature of these discussions. Our findings reveal distinct themes across GLAM institutions and indicate that positive sentiment was most prevalent within museums and galleries and negative sentiment was more frequently linked to archives. While preliminary, this study highlights both promises and challenges of GenAI use in GLAM institutions and highlights the need for further research to support thoughtful, intentional implementation.

ALISE RESEARCH TAXONOMY TOPICS

Artificial intelligence, Libraries in the developing world, Museums, Archives, Social Media

AUTHOR KEYWORDS

Generative Artificial Intelligence, GLAM, Social Media, Galleries

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INTRODUCTION

The rising popularity of Generative Artificial Intelligence (GenAI) has expanded exponentially within the past decade and has become integrated into both personal and professional areas of interest. As GenAI is increasingly adopted, researchers are studying its impact within GLAM institutions (galleries, libraries, archives, and museums). Studies have investigated how GenAI can enhance user engagement within GLAM institutions and support operations. There are growing concerns about potential risks of GenAI adoption within these spaces.

This paper explores the public perceptions of GenAI use within GLAM institutions through an analysis of social media discourse on the platform X (formerly Twitter). We sought to determine how GenAI is discussed on X and determine if there were dominant themes associated with GenAI and GLAM institutions. Information regarding GenAI use is categorized into three areas – Libraries, Archives, and Museums and Galleries – for analysis. Understanding the context of these discussions provides valuable insights about GenAI implementation and challenges experienced by GLAM staff and users. Our research questions include:

RQ1. *How does the public perceive the impact of GenAI on GLAM institutions?*

RQ2. *What are the sentiments associated with X posts across different types of GLAM institutions?*

LITERATURE REVIEW

Generative AI Within Libraries

Researchers have shown that GenAI provides opportunities for libraries to enhance the efficiency of workflows and services, including automation of tasks, reference services, data collection and analysis, and user experiences (Chen, 2023; Cox and Tzoc, 2023, and Panda, 2023). Lund and Wang (2023) addressed potential applications of the GenAI platform ChatGPT for librarians and patrons, including assistance with reference services, cataloging, and metadata generation. Semeler et al. (2024) concluded that OpenAI Codex can help data librarians conduct data management and coding literacy.

Researchers have studied the impacts of GenAI and its challenges through differing perspectives of library staff, stakeholders, and patrons. Adetayo (2023) surveyed 54 university students about using ChatGPT instead of reference librarians, and noted the convenience and accessibility as benefits, but raised concerns about its inability to provide complex or up-to-date responses.

Recommendations vary on how best to address GenAI within libraries. Hazarika (2024) and Subaveerapandiyan (2023) both propose ongoing collaboration between librarians and stakeholders in addressing how best to implement GenAI while accounting for its limitations. Mannheimer et al. (2024) recommend the adoption of ethical frameworks, consistent audits, and the involvement of stakeholders in the development and use of GenAI within libraries.

Generative AI Within Archives

GenAI offers novel opportunities in archives to automate archival workflows and enhance user services. Nguyen et al. (2025) developed a novel framework based on the Retrieval Augmented Generation (RAG) architecture to improve semantic understanding and cross-modal search in multimedia digital archives. Zucker et al. (2023) propose that GenAI could enhance the accessibility of archive content through interpretative summaries and utilization of natural language queries, thus enhancing content for users. One such example of this is *Ploariscopes*, a collaborative storytelling platform that helps users share cultural and heritage data, while also allowing them to create collective memories (Pedro et al, 2024).

Integration of GenAI also presents unique challenges to archives. Research by Mannheimer et al. (2024) addresses concerns of possible bias in archival-related material and an overreliance on technology, often to the detriment of user trust. Darda, Carre, and Cross (2023) found that archival users tended to distrust GenAI, assigning lower value to AI-generated archival text compared to human-written content. These highlights concern by both staff and users surrounding GenAI reliability within an archival context, including areas like reliability and trust.

Generative AI within Museums and Galleries

GenAI has already begun transforming museums and galleries through support of visitor engagement, streamlining operations, and improving accessibility. GenAI has the potential to enhance art exhibitions and museum experiences for its visitors (Oksanen et al., 2023). Trichopoulos (2023) explores the use of GPT-4 as both a museum guide and recommendation system, addressing the potential of GenAI to provide personalized, interactive guidance and storytelling to its visitors. Meyer (2024) developed SMKExplore, an interactive application that employs AI-based object detection to enable users to explore 6,750 paintings from the National Gallery of Denmark. Users reported burgeoning awareness regarding the complexity of the paintings, offering a new way to experience museum content.

Despite the advantages of GenAI integration, challenges remain apparent regarding bias and authenticity within these venues. Research by Foka and Griffin (2024) addresses how GenAI can amplify already apparent biases in cultural heritage collections found in both museums and galleries. Menotti (2025) examines how GenAI systems can influence cultural representation in modern museums, arguing that there is a potential for GenAI to skew socio-cultural environments. These studies point to the need for more thoughtful, inclusive approaches and collaboration across institutions, fields, and researchers when applying GenAI technology in culture spaces.

Generative AI Discussions on Social Media

GenAI use has been broadly documented on social media platforms, displaying a multitude of opinions of its use within and outside of GLAM institutions. Miyazaki et al. (2024)

analyzed X posts and found out that users in fields related to IT and creative industries showed more enthusiasm towards GenAI, while users within more traditional fields like law, education, or public policy showed more concerns towards GenAI use. Staudt, Willet, and Na (2024) examined early reactions to ChatGPT within education-focused subreddits and highlighted discussions of ChatGPT as a potential support for individual learning and support with educational tasks, along with concerns surrounding ChatGPT, including over-reliance on GenAI by students and a potential decline in critical thinking.

Research regarding social media discussions of GenAI's impact on GLAM institutions is still emerging. Our study addresses this gap in research by analyzing public opinion on GenAI's role in GLAM institutions through a content analysis of X posts.

METHODOLOGY

Data Collection

We collected 215,810 posts from X via Sprinklr (<https://www.sprinklr.com/>). First, we refined a set of keywords using ChatGPT and Google and knowledge from literature, ensuring coverage of relevant terms and trends. Using logical operators (AND, OR, NOT), we structured search queries by combining domain-specific terms (e.g., e-books, book collection, reference, help desk, cataloging, document preservation, manuscript conservation, art exhibitions) with corresponding domains (i.e., libraries and librarians, archive and archivists, galleries and museums). These were further integrated with GenAI keywords, including references to specific technologies and tools. We excluded content pertaining to programming such as Java, Python, and software library. Our final query collection included 676 words. In total, we collected 215,810 posts from November 1, 2022, to December 31, 2024: 52,030 posts about GenAI and libraries, 78,360 about GenAI and archives, and 85,420 about GenAI and museums and galleries; these included both original posts and retweets of posts.

Data Preprocessing and Analysis

We cleaned the textual data to remove noise and ensure consistency. A Python function performed several preprocessing steps: 1) Lowercasing to maintain uniformity. 2) Stopword removal using the Natural Language Toolkit (NLTK) to eliminate common, non-informative words. 3) Noise removal by stripping special characters, numbers, and extra spaces. 4) Tokenization to split text into meaningful units for further analysis.

Data Analysis

We applied machine learning techniques, including topic modeling and sentiment analysis, to identify key themes and emotional trends. Term Frequency-Inverse Document Frequency (TF-IDF) transformed the cleaned text into numerical vectors, emphasizing important words. HDBSCAN (Hierarchical Density-Based Spatial Clustering of Applications with Noise) detected natural groupings in the data without requiring a predefined number of clusters, making

it particularly effective in identifying distinct themes while filtering out noise. Topic distribution graphs generated using Matplotlib visually represented these emerging themes.

For sentiment analysis, we used the transformers library from Hugging Face, applying a fine-tuned *bert-base-uncased* model to classify sentiments into three categories: Positive, Negative, and Neutral, with further classification into five emotions: Happy, Sad, Anger, Fear, and Surprise. ANOVA was used to compare the different sentiments across GLAM sectors, revealing trends in how various topics correlated with sentiment polarity within each section.

RESULTS AND DISCUSSION

RQ1 explores the key themes in public discussions about GenAI and its impact on GLAM institutions. A total of 98 topics were identified – 18 for libraries, 24 for archives, and 56 for galleries and museums. We have highlighted the ten most relevant discussion topics within each domain.

Table 1 presents the key discussion topics related to GenAI and libraries. The two most popular topics focus on the relationship between GenAI and professionals in this field: *ChatGPT, AI, librarians, and audiobooks* and *library, today, librarians, archivists, and books*. This trend suggests a widespread concern regarding GenAI, particularly ChatGPT, potentially replacing librarians. Since the data was not restricted to specific user groups, these discussions likely reflect the general public’s concerns about GenAI’s evolving role within libraries. Another major theme centers around eBooks, including topics such as *create eBooks, AI-written eBooks, and eBooks with Pinterest*. These discussions indicate that content creation, marketing, and digital transformation are perceived as the areas most affected by GenAI. Other popular topics, such as *help desk message with Gemini, knowledge sharing, learning strategies in education, and online resources for research data*, highlight discussions of GenAI in relation to supporting and expanding traditional library services.

Table 1

Ten most relevant discussion topics on X about GenAI and Libraries

Topic Name	Frequency
chatgpt ai librarians audiobooks	8384
Library today librarians archivists book	778
ebooks chatgpt ai create resumes	541
ebooks boom ai written amazon chatgpt	467
ebooks chatgpt using pinterest	420
desk help kindly message gemini	415
artificial intelligence ai knowledge sharing	269
desk hello user help kindly	246
learning strategic new education delighted	221

Table 2 outlines the ten most relevant discussion topics about GenAI within the archive sector. The discussions primarily focus on the relationship between archival data and GenAI. On one hand, there is recognition of the opportunities to use GenAI for improving access, searchability, updates, and analysis of archival data in various formats, as reflected in topics such as "LLMs archive data feed," "history AI search digital," "ChatGPT people historical living records," "documents archive digital dive," and "archive text access OpenAI dating." On the other hand, there is a significant trend of concern about AI-generated content, particularly regarding authenticity, misinformation, and AI's impact on historical narratives. Topics such as "archives AI historical fake," "chats deleting archive ChatGPT archived," and "actually sources frequently liberating cause" reflect public worries about AI creating false historical data, altering or deleting archival records, and the ethical implications of AI-generated reconstructions. These discussions reveal both optimism about AI's potential benefits and skepticism about its risks in archival practices.

Table 2

Ten most relevant discussion topics on X about GenAI and archives

Topic Name	Frequency
Llms archive data feed	5371
history ai search digital	3933
images ai using generative archivists	2869
actually sources frequently liberating cause	1580
chats deleting archive chatgpt archived	893
chatgpt people historical living records	883
archive account updates related contents	681
documents archive digital dive	632
archives ai historical fake shouldn't	334
archive text access openai dating	225
Total	16401

Table 3 presents the main discussion themes related to GenAI and museums and galleries. Notably, these discussions show more frequent mentions of specific GenAI tools, including *Sora*, *DALL-E*, *Gemini*, and *Midjourney*. Positive terms appear in tandem with these tools, including *free imagination*, *learning new generated machine*, *new videos*, and *engineering future*. While copyright concerns are present within these discussions, the overall trend suggests that museums and galleries are more open to adopting a variety of GenAI tools and maintain a generally positive outlook on GenAI use within this field.

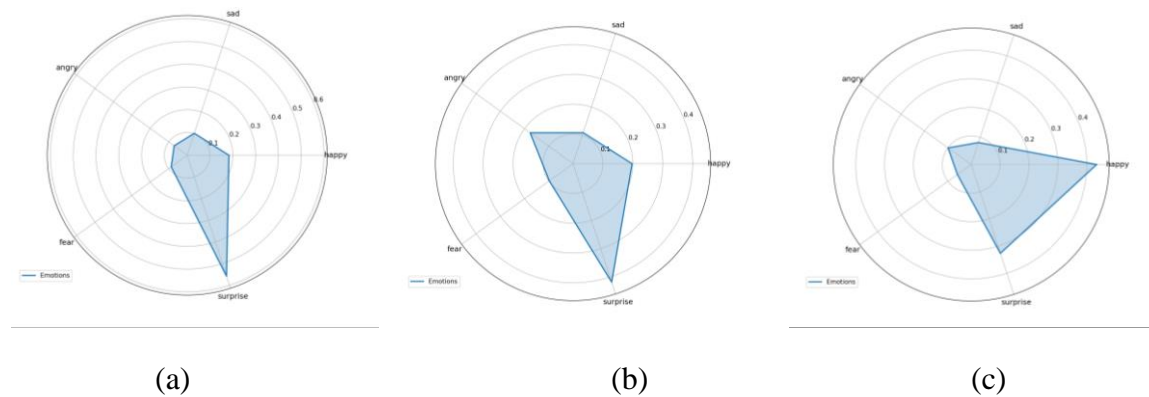
Table 3*Ten most relevant discussions on X about GenAI and museums and galleries*

Topic Name	Frequency
art museum artificial intelligence paintings	10968
gallery chatgpt turn free imagination	1941
gallery learning new generated machine	1114
art museum city new sora	946
ai art midjourney gallery whats	284
gallery diffusion generated Dall-E latest	271
fourth photos phone geminis stealing	269
museum artificial intelligence engineering future	255
gallery chatgpt intelligence new videos	244
gallery took image copyright really	239
Total	16531

RQ2 focuses on sentiment related to these discussions. Our analysis is shown in Figure 1, with (a) GenAI in libraries, (b) GenAI in archives, (c) GenAI in museums and galleries.

Figure 1

Sentiment Analysis results across GLAM institutions: a. libraries, b. archives, c. museums and galleries

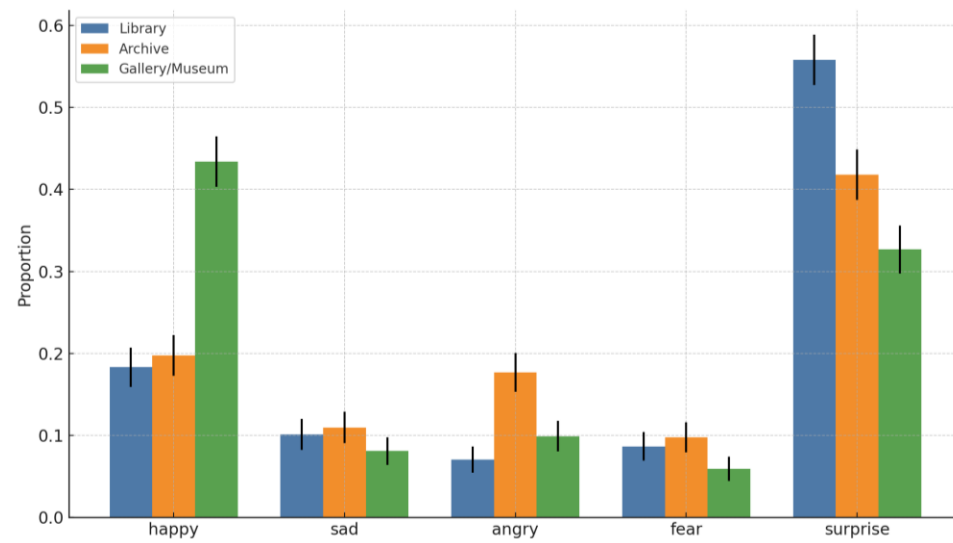


A comparative analysis examined the distribution of five key emotions – *happiness*, *sadness*, *anger*, *fear*, and *surprise* – in response to the perceived impact of GenAI across libraries, archives, and museums and galleries. The findings reveal distinct emotional profiles across these domains.

Museums and galleries exhibited the highest enthusiasm for GenAI, with the most prevalent expressions of *happiness* and the lowest levels of *fear* and *sadness*. This aligns with discussions highlighting opportunities for AI-driven innovations in these settings and suggests that museums and galleries may be more open to GenAI experimentation.

Figure 2

Sentiment Proportions Across GLAM institutions with 95% CI



In contrast, *surprise* dominated emotional responses in libraries and archives, likely reflecting curiosity and novelty. This reaction may stem from a lack of insight into GenAI’s role within libraries and archives, subsequently raising doubt regarding traditional library roles.

Anger was notably more frequent in the archive context than in other domains, aligning with concerns about GenAI’s potential to alter historical narratives, replace archivists, or misinterpret historical data. This frustration also reflects ethical dilemmas surrounding AI-generated reconstructions and the accuracy in doing so.

Overall, *sadness* and *fear* were present across all domains, likely driven by concerns about GenAI replacing human expertise, ethical challenges, and the spread of misinformation. These sentiments point to broader themes regarding both the excitement of GenAI within GLAM institutions, as well as concerns regarding the impact of GenAI within these spaces.

CONCLUSION

This paper addresses a current gap in research of GenAI and GLAM institutions through examining public discussions of Generative AI (GenAI) in libraries, archives, museums, and galleries (GLAMs), revealing both shared concerns and domain-specific attitudes. By analyzing real-world discussions, the study extends current understandings of GenAI adoption in GLAM

institutions, beyond broad assumptions and into sector-specific perspectives. Topic analysis identified key themes, highlighting GenAI's role in content creation, historical record management, and creative innovation. Sentiment analysis showed enthusiasm in museums, uncertainty in libraries, and strong concerns in archives. These findings suggest that responsible GenAI adoption requires sector-specific strategies, ethical safeguards, and proactive public engagement.

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