ACM GreekCHI-CYCHI Symposium 2026 · November 6–7

Assessing Existing AI Applications in Cultural Institutions

A Five-Dimension Framework

Sophia Bakogianni
Cyprus Center for Trustworthy AI (CyCAT), Open University of Cyprus

About this research

Background. AI is increasingly used across museums and heritage organizations for collections, visitor experience, and internal operations.

Stage. Framework developed and applied to four international AI applications.

Objectives and research questions

Objective. Develop and test a framework for assessing existing AI applications in cultural institutions.

RQ1 Which dimensions are needed to assess AI in cultural institutions beyond technical performance?

RQ2 How do AI applications already in use in museums and archives perform across these dimensions?

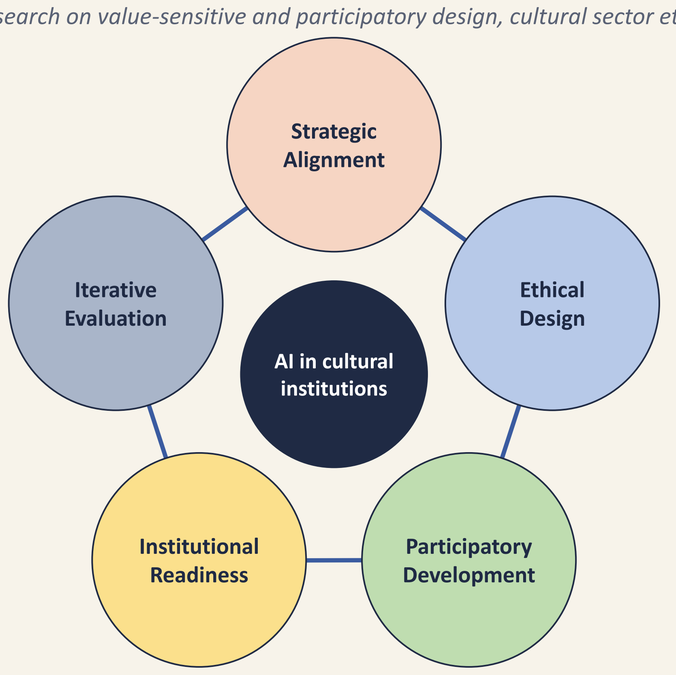
RQ3 Which gaps recur, and what do they imply for responsible, human-centered AI?

Motivation and state of the art

Planning tools help museums decide whether and how to adopt AI (Murphy, 2023). Governance models set principles before adoption (Derda & Predescu, 2025). International guidance calls for monitoring AI throughout its life cycle (UNESCO, 2021). Yet few tools assess AI applications that are already in operation.

Methodology: a five-dimension framework

Synthesized from HCI research on value-sensitive and participatory design, cultural sector ethics, and institutional readiness models.



Strategic alignment. Does the AI support the institution's mission and public engagement goals?

Ethical design. Is it designed with attention to cultural authenticity, inclusivity, and bias prevention?

Participatory development. Were staff, visitors, and communities involved in its development?

Institutional readiness. Is it embedded in structures for training, governance, and maintenance?

Iterative evaluation. Are there mechanisms for ongoing evaluation, feedback, and adaptation?

- Qualitative comparative study of four international AI applications.
- Interpretive scale from Very Strong to Limited. Missing documentation is recorded as "No public evidence", not read as absence.

Implementation: context and cases

Sources: institutional pages, project documentation, presentations, and media coverage.

Hello Vincent
Musée d'Orsay
Generative AI answers visitors' spoken questions, drawing in part on Van Gogh's letters.

Smartify tours
Smithsonian American Art Museum
Personalized tours and artwork recognition in English, Spanish, and ASL.

Edvard Munch: Connect the Lines
Munch Museum
AI matches visitors' drawings with more than 7,000 archival drawings.

Machine learning for audiovisual archives
National Film and Sound Archive of Australia
Automated transcription and metadata surface overlooked content.

Evaluation criteria, sample, and results

Case	Strategic alignment	Ethical design	Participatory development	Institutional readiness	Iterative evaluation
Hello Vincent	Strong	Moderate	Limited	Moderate	Limited
Smartify	Strong	Moderate	Moderate	Strong	Moderate
Connect the Lines	Strong	**Very Strong**	Moderate	Strong	*No public evidence*
Audiovisual archive	Strong	Strong	Limited	**Very Strong**	Moderate

Criteria: the five guiding questions. Sample: four cases. Data: public documentation.

- Strategic alignment is strong in all four cases.
- Ethical design is uneven. The Munch Museum shows how transparency, consent, and data control can be built in.
- Participation remains limited to moderate.
- Institutional readiness is mostly strong, but varies with long-term planning.
- Evaluation after launch is limited or only partly documented.

Contribution, innovation, and impact

- **Contribution.** A lens for AI applications already in use, connecting HCI and museum studies.
- **Innovation.** Turns high-level AI principles into questions institutions can apply to their own systems.
- **Impact.** A reflective tool that helps institutions examine and improve how they develop, govern, and evaluate their AI applications, rather than a performance metric.

Progress, next steps, and open questions

Progress. Framework applied to four cases.

Next steps. Extend the framework with more case studies and a wider range of AI applications, and refine it with museum professionals and other stakeholders.

- How can participation be assessed when AI comes from commercial platforms?
- How should institutions be assessed when public documentation is thin?
- Should environmental and financial sustainability become a sixth dimension?

Selected references

Derda, I., & Predescu, D. (2025). Towards human-centric AI in museums. Museum Management and Curatorship, 40(4), 532–554.
Dikow, R. B., et al. (2023). Developing responsible AI practices at the Smithsonian Institution. Research Ideas and Outcomes, 9, e113334.
Munch Museum. (n.d.-b). How does the interaction work and what happens to your drawing? munch.no
Murphy, O. (2023). Power, data and control: AI in the museum. In S. Thiel & J. C. Bernhardt (Eds.), AI in museums (pp. 73–82). transcript.
Network of European Museum Organisations. (2024). Policy recommendations addressing artificial intelligence and museums.
Thiel, S. (2023). Managing AI. In S. Thiel & J. C. Bernhardt (Eds.), AI in museums (pp. 83–98). transcript.
UNESCO. (2021). Recommendation on the ethics of artificial intelligence.

Contact

sophia.bakogianni@gmail.com
sophiabakogianni.net
linkedin.com/in/dr-sophia-bakogianni-4057438

Website LinkedIn

Poster designed and drafted with the assistance of Claude (Anthropic). Content reviewed and verified by the author.