

Art Museum Digital Impact Evaluation Toolkit



Developed by the Cleveland Museum of Art's Office of Research & Evaluation in collaboration with Rockman et al thanks to a generous grant from the National Endowment for the Arts.

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Introduction

The Art Museum Digital Impact Evaluation Toolkit (AMDIET) is intended to provide art museums and arts organizations with the ability to evaluate the roles and impacts of digital interactives on the visitor experience. Overall, this toolkit is meant to empower organizations not just to evaluate the level of success of specific digital interactive experiences but also to evaluate the overall effects these newer museum elements have on overall visitor experiences and relationships with art.

This toolkit was developed by the Cleveland Museum of Art (CMA) in collaboration with Rockman et al as part of a study aimed at better understanding the outcomes of digital engagement, including:

- How do these interactives extend and expand the relationship visitors have with the collection and the overall museum visit?
- Are new visitors and/or millennials more likely to visit due to these types of technologies?
- What is the value of this interactive engagement, and what metrics best measure this value?

The evaluation of digital interactives at the CMA involved multiple iterations of data collection, evaluating not just the experience but the way

in which the experience was studied. The final version of data collection instruments took the form of paired pre-visit and post-visit surveys, an essential process to understanding the impact of any variable in a single museum visit. In the case of the CMA, ARTLENS Gallery served as the interactive factor in the study. From the results, researchers determined which metrics and methods can show impact and change, resulting in this toolkit that examines evaluation of visitor context, the context of the digital experience, visitors' relationship with art, attitudes and ideas about art museums, and overall experience and impact.



This toolkit is not intended to be final or finite. Rather, AMDIET should serve as a reference point for adaptation and expansion for individual projects to meet the evaluation capacities and needs of various organizations.

01 Visitor Context



What background information is important to know about your visitors when considering their engagement with digital interactives at the museum?

Demographics

Motivations

Visitation Frequency

01 Visitor Context: *Demographics*

USE AT CMA

Collecting visitor demographics enabled the CMA to measure to what extent ARTLENS Gallery was serving anticipated audiences. Not only that, it allowed researchers to look closely at how museum expectations, perceptions, and experiences may differ among groups both dependent and independent of engagement with digital components. Demographic data also allowed for comparison between survey participants and the overall Cleveland Museum of Art audience.



VALUE OF METRICS

Demographic questions should only be asked when essential to the goals, process, and validity of the study. The CMA instruments asked about age, group composition, membership status, and zip code in order to align with the intended audiences but did not ask about race/ethnicity or gender, as these were not necessary toward measuring success.

IMPLEMENTING AND ADAPTING

With a pre-visit/post-visit survey methodology within a short time frame, demographics will not change and therefore only need to be asked on one instrument. The post-visit survey is likely to have more questions, so demographics can provide a good balance to the length of the pre-visit survey. Questions and answer categories should be adjusted to align with an organization's established categories for age, group types, etc.

Examples

Pre-Visit: What is your age?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65-74
- ☐ 75+

Pre-Visit: Including yourself, how many people in your group are within the following age ranges:

Children 6 and under: ____

Children 7 to 12: ____ Children 13 to 17: ____

Adults 18 to 34: ____ Adults 35 to 54: ____

Adults 55 to 74: ____ Adults 75 and over: ____

01 Visitor Context: *Motivations*

USE AT CMA

Motivators toward CMA visitation were included on the pre-visit survey to explore, through a comparison with identified satisfying experiences on the post-visit survey, the extent to which motivations were met by the museum. Researchers also explored whether certain motivations, or a combination of motivations, indicate higher rates of ARTLENS Gallery visitation and related behavior among various audiences.

VALUE OF METRICS

The motivations of visitors have long been known to direct many elements of museum experience, as established by the works of, among others, John Falk and Lynn Dierking. This study aimed to look at how these established motivational categories and subcategories influenced digital interaction and potential impact.

IMPLEMENTING AND ADAPTING

The CMA study instructed visitors to select a maximum of three motivational categories, a prioritization which can only be ensured through a digital survey collection method. This method also enables choices to appear in random order to reduce respondent bias toward higher-listed options. Other institutions may choose to ask about motivations via a Likert scale or similar rating. We advise against asking visitors to rank motivations by importance, as this was tested in the early part of data collection and proved confusing for many participants.

Example

Pre-Visit: Which THREE factors were most important in motivating you to visit the museum today?

- ☐ To have fun and be entertained
- ☐ To learn something new or feel intellectually stimulated
- ☐ To socialize or be with friends and family
- ☐ To relax or slow down
- ☐ To feel inspired or admire things that are beautiful or interesting
- ☐ To have a new experience (by visiting a museum or exhibition I haven't seen)
- ☐ To give friends or family an enjoyable experience
- ☐ None of the above



01 Visitor Context: *Visitation Frequency*

USE AT CMA

Knowing which study participants were new or infrequent visitors was necessary in the CMA study to provide researchers the opportunities to 1) study the impact of ARTLENS Gallery on this particular target audience; 2) compare visitation rates between the study sample and overall CMA attendees; and 3) determine whether new or infrequent visitors' perceptions and motivations aligned with museum goals for the interactive space. Additionally, researchers hoped to learn more about how visitation to non-art museums impacted expectations and perceptions of art museums.

VALUE OF METRICS

Visitation frequency of your museum and comparable cultural areas can shed light on whether a visitor is new to just your institution or is less familiar with the broader idea of art museums and other places of informal learning.

Research findings suggest that willingness to use digital tools may be connected to these areas of familiarity and comfort.

IMPLEMENTING AND ADAPTING

Being a free-admission museum in a midwestern city, the CMA has a high visitation rate of frequent visitors. If your institution sees higher numbers of infrequent or first-time visitors, having many categories for frequent visitation may not apply. As with demographic questions, categories concerning visitation should reflect institutional norms.

Examples

Pre-Visit: How often do you visit the Cleveland Museum of Art?

- ☐ More than 6 times a year
- ☐ 4–6 times a year
- ☐ 2–3 times a year
- ☐ Once a year
- ☐ Once every few years
- ☐ Have not visited in at least 5 years
- ☐ Today is my first visit to the CMA

Pre-Visit: In the last year, how often have you visited...

	More than 6 times	4 to 6 times	2 to 3 times	Once	Not at all
...any OTHER art museum?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...a non-art museum (<i>including zoos, aquariums, science centers, and historic sites</i>)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

02 Context of the Digital Experience



What do you need to know about when/where/how visitors engaged with digital interactives in order to interpret their impact on the visitor experience?

Prior Digital Engagement

Timing of Interactive Experience

02 Context of the Digital Experience: *Prior Digital Engagement*

USE AT CMA

Since data collection began nearly six months after the completion of the newest iteration of ARTLENS Gallery, it was possible many of the museum's frequent visitors had visited the gallery on at least one prior visit before they participated in the study. Understanding prior experiences allowed for segmentation among not just new or infrequent CMA visitors but also between new and returning digital users.

VALUE OF METRICS

Depending on the history of digital interactives at your institution, gauging a visitor's prior experience, or lack thereof, may prove valuable, especially if your institution has implemented changes to the digital experiences and their learning goals over time.

IMPLEMENTING AND ADAPTING

While the CMA chose to ask about prior engagement in the interactive space, other institutions may instead want to ask about familiarity with museum apps, audio guides, touch screens, etc. in an art museum.

Example

Post-Visit: Was today your first time in the ARTLENS Gallery?

☐ Yes

☐ No



02 Context of the Digital Experience:

Timing of Interactive Experience

USE AT CMA

A central goal of ARTLENS Gallery is that it serve as a launch pad for exploration to and of the museum's collection, whether it be through learning art elements to observe in the galleries, discovering new artworks via the games, looking closer at artworks, or curating an experience by building a tour or a list of favorite works. Therefore, it was vital that evaluators be able to determine at what point during a visit ARTLENS Gallery was experienced. It was important to test the theory that visiting ARTLENS Gallery at the beginning of a CMA visit would create a more positive impact than experiencing the space toward the end of a visit.

VALUE OF METRICS

The approach taken for this study placed the digital interactives as the variable in an otherwise controlled, or at least traditional, museum experience. Any intervention will likely have a greater measurable impact if applied early in the tested experience, which in this case was a single museum visit. Understanding the order of museum experiences can shed greater light on motivations, expectations, and the entire visit.

IMPLEMENTING AND ADAPTING

Whether evaluating the impact of an interactive space, an app, or in-gallery digital installations, knowing if a visitor interacted with digital

technology early in their visit can examine its permeability into their preferred museum experience. Other institutions may also find it helpful to monitor digital interactives and their use through Google Analytics or visitor observations. However, interactive-specific successes were less of a focus of the impact-driven project goals, and so understanding how digital elements fit into overall visit experiences and visited areas was of greater importance. From an implementation standpoint, asking about areas visited in the museum is crucial to having area-specific questions built into a survey.

Examples

Post-Visit: Which of the following areas of the museum did you visit today?

(Select all that apply)

- ☐ ARTLENS Gallery
- ☐ Museum's collection galleries
- ☐ Special exhibition(s)
- ☐ Museum store
- ☐ Museum café or restaurant

Post-Visit: At what point during your visit today did you spend time in the ARTLENS Gallery?

- ☐ Beginning
- ☐ Middle
- ☐ End

03 Visitors' Relationship with Art



Did the experience provide visitors with new content knowledge, skills for looking at and interpreting art, or comfort for viewing and interpreting art? What skills/knowledge/comfort did they have before and after engaging with digital interactives?

03 Visitors' Relationship with Art

USE AT CMA

Initially, the CMA team had intended to ask visitors to self-reflect on their prior and current comfort with art and in art museums. This, however, resulted in many visitors expressing confusion about what defines comfort, reasoning that their presence in an art museum denoted high levels of comfort. By asking instead about art knowledge, understanding, and interpretive skills, visitors could consider comfort in other ways. By asking about these markers at the beginning and end of a visit, researchers could measure change with in-the-moment reactions. Looking at aggregate results of related questions through a factor analysis revealed even more about visitors' relationships with art than individual questions.

VALUE OF METRICS

By asking visitors to rate their level of art understanding/knowledge alongside their interpretation skills and ability to make meaning both before and after an art museum experience, the impact of a single museum visit, and the components that comprise that visit, can be measured without asking the visitor to self-reflect on a prior state.

IMPLEMENTING AND ADAPTING

A large scale, such as the one implemented to rate art understanding and knowledge, can better reveal change across a short period of time. Therefore, other institutions may look to expand scale options on questions related to skill, familiarity, and comfort, keeping in mind the complex definitions many visitors associate with such words.

Examples

Pre-Visit and Post-Visit: Where on the scale best reflects your level of art understanding and knowledge?

Art Novice										Art Expert
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5	6	7	8	9	10	

Pre-Visit and Post-Visit: When visiting an art museum, how often do the following apply to you?

	Never	Rarely	Sometimes	Often	Always
I have the skills to interpret art I see, even if I'm unfamiliar with it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to make personal connections with art because I can relate to it intellectually or emotionally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable in an art museum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel bored in an art museum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When a piece of art isn't my taste, I can still find meaning in it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

04 Attitudes and Ideas about Art Museums



Did the experience change visitors' thinking about the purpose of art museums or the types of experiences they provide?

Perceptions of the Art Museum

Perceptions of Digital Interactives

04 Attitudes and Ideas about Art Museums:

Perceptions of the Art Museum

USE AT CMA

Apart from testing the effectiveness of digital interactives in an art museum, the study aimed to also evaluate the role such interventions played in changing visitor behavior and perceptions of art museums. Comparing results from relevant questions asked on both pre-visit and post-visit surveys revealed deeper insights into visitor opinions of art museums and the experiences they can and should offer.

VALUE OF METRICS

In allowing visitors to choose among experience and motivational factors as well as self-define the museum, researchers can analyze the true strength of visitor agreement, perceptions, and opinions. Further connections are possible when results are compared to those concerning perceptions of digital interactives and prioritized motivations for visiting an art museum.

IMPLEMENTING AND ADAPTING

Many of the options in the perception questions stemmed from either established motivations or from goals of the institution's digital interactives concerning

changing perceptions. Each institution should consider the most essential categories for these questions. For open-ended questions, determine early on whether deductive or inductive coding will drive the analysis of participant responses.

Examples

Pre-Visit and Post-Visit: Do you think art museums are a good place to...

(Select all that apply)

- ☐ have fun and be entertained?
- ☐ learn something new or feel intellectually stimulated?
- ☐ socialize or be with family or friends?
- ☐ relax or slow down?
- ☐ feel inspired or admire things that are beautiful or interesting?
- ☐ have a new experience (by visiting a museum or exhibition you haven't seen)?
- ☐ bring friends or family for an enjoyable experience?

Pre-Visit and Post-Visit: To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
Art museums should provide exhibitions and experiences that allow visitors to interact with art in different ways.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Art museums are a welcoming place for children.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Post-Visit: What are three words you would use to describe the Cleveland Museum of Art?

04 Attitudes and Ideas about Art Museums: *Perceptions of Digital Interactives*

USE AT CMA

Going beyond visitor satisfaction and experiences with digital interactives, researchers hoped to better understand how, and to what extent, visitor engagement with technology altered perceptions of technology and the museum's digital offerings.

VALUE OF METRICS

For many visitors, digital interactives in an art museum may constitute a new experience. It is therefore essential to gauge preconceived notions about technology's place in art museums before comparing with post-visit results and the various activities undertaken during a visit. It is also

valuable to consider whether visitors define the traits of digital experiences as different from the overall museum experience, and so additional analyses are possible when results are compared to those concerning perceptions of art museums and the prioritized motivations for visiting an art museum.

IMPLEMENTING AND ADAPTING

Understanding visitor attitudes about digital initiatives, and how those attitudes can change over a single visit, can be invaluable for an art museum, but each institution may want to adapt question and scale language to better fit their research needs and objectives.

Examples

Pre-Visit and Post-Visit: Where on the scale best reflects your attitudes toward technology use in art museums? *(This includes the use of museum apps, audio tours, videos, and digital interactives)*

I prefer not to engage with technology in an art museum

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

I think the use of technology greatly enhances the art museum experience

Post-Visit: What are three words you would use to describe the ARTLENS Gallery?

05 Overall Experience and Impact



Three Panels from a Casket with Scenes from the Fourteenth Century, France, Lorraine?, Gothic period, 14th century, c. 1330-1350 or later

How and to what extent did visitor experiences with digital interactives impact the overall museum experience?

05 Overall Experience and Impact

USE AT CMA

At the CMA, certain questions such as the Overall Experience Rating (OER) are used in numerous surveys in order to compare program, exhibition, and event experiences alongside general museum visits. In this study, it was important to evaluate not just the impact of digital interactives but also to what extent they influenced the entire museum experience and visitors' outlook for potential future museum experiences.

VALUE OF METRICS

Measuring the impact of any new or supplementary elements of a museum experience is extremely valuable but must be done in a way that is comparable to a baseline dataset such as that formed by a general museum experience survey.

IMPLEMENTING AND ADAPTING

Apart from an experience rating question such as

OER, additional questions about experiences and future visitor behaviors should be adapted so that affirmation statements align with each institution's project goals and objectives.

Examples

Pre-Visit: How do you think you will rate your overall experience at the museum today?/Post-Visit: Please rate your overall experience at the museum today:

- ☐ Poor ☐ Fair ☐ Good ☐ Excellent ☐ Superior

Post-Visit: Which THREE factors were the most satisfying in your visit to the CMA today?

- ☐ To have fun and be entertained
- ☐ To learn something new or feel intellectually stimulated
- ☐ To socialize or be with friends and family
- ☐ To relax or slow down
- ☐ To feel inspired or admire things that are beautiful or interesting
- ☐ To have a new experience (by visiting a museum or exhibition I haven't seen)
- ☐ To give friends or family an enjoyable experience
- ☐ None of the above

Post-Visit: How likely are you to visit an art museum (either the CMA or another) in the next year?

- ☐ Extremely unlikely ☐ Unlikely ☐ Neutral ☐ Likely ☐ Extremely likely

06 Areas for Further Exploration



06 Areas for Further Exploration

As with any study, the evaluation of digital interactives on the art museum experience highlighted further questions for exploration in potential future evaluations. Many of the questions that emerged, such as the ones included below, grew from the realization that the study could not evaluate visitor behavior in the days, months, and years after a single visit, nor could it study changing patterns, behavior, and perceptions with routine experiences with interactive technology. Subsequent studies and their results may yield an expansion of AMDIET as the field better understands the relationships of visitors to art museums with digital interactive elements.

Beyond the visit, what long-term impacts do art museum digital interactives have on visitors, and how do they differ from a traditional experience of an art museum?

- Are changes in art knowledge or art comfort sustained or enhanced beyond the museum visit?
- Does the experience prompt follow-up actions such as more frequent art museum visits or visits to relevant websites for more information about art?
- Does the experience lead to referrals of friends or family?
- Does the experience lead to a lasting increase in art interest or affinity for art museums?



About the Cleveland Museum of Art

The Cleveland Museum of Art is renowned for the quality and breadth of its collection, which includes more than 61,000 objects and spans 6,000 years of achievement in the arts. The museum is a significant international forum for exhibitions, scholarship, and performing arts. One of the top comprehensive art museums in the nation and free of charge to all, the Cleveland Museum of Art is located in the dynamic University Circle neighborhood.

The Cleveland Museum of Art is supported by a broad range of individuals, foundations, and businesses in Cleveland and Northeast Ohio. The museum is generously funded by Cuyahoga County residents through Cuyahoga Arts and Culture. The Cleveland Museum of Art is made possible in part by state tax dollars allocated by the Ohio Legislature to the Ohio Arts Council (OAC). For more information about the museum, its holdings, programs, and events, call 888-CMA-0033 or visit ClevelandArt.org.

Elizabeth Bolander, Hannah Ridenour, and Claire Quimby, *Art Museum Digital Impact Evaluation Toolkit*. The Cleveland Museum of Art, 2018.



To learn more about the CMA's study, check out the white paper published on the museum's website. Questions? Contact the researchers at audience@cleveandart.org.