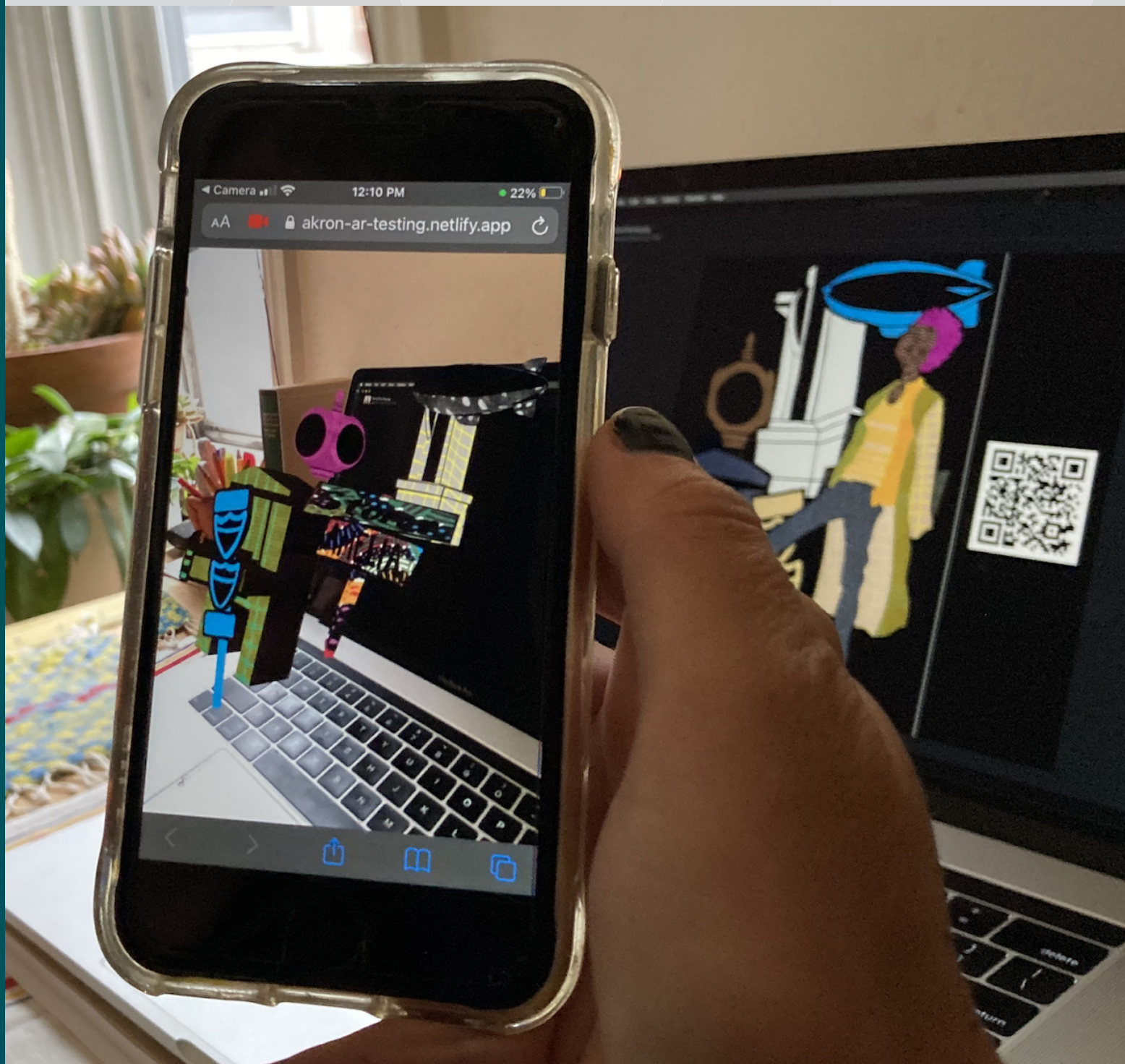# REBOOT

By Brendan Ciecko

NATIONAL ENDOWMENT FOR THE HUMANITIES

American Alliance of Museums

"Reopenings," a special series of reports that aims to capture the long-term lessons, mindsets, and practices museums can learn from their handling of the COVID-19 pandemic and the nation's reckoning with systemic racism.

In part one of our series, titled *Reboot,* we look at how the pandemic forced museums to accelerate their digital transformation. Through case studies, data, and multimedia, we explore the stories of museum professionals whose ingenious use of technology brought joy to millions of people and examine whether these pivots have set the field on a course to better serve the public.

We thank the National Endowment for the Humanities for its support of this project through its Sustaining Humanities Through the American Rescue Plan program.

— American Alliance of Museums

Introduction

The arrival of the COVID-19 pandemic in early 2020 threw museums into uncharted territory, simultaneously rendering their physical spaces inaccessible and triggering a mass shift to the digital sphere.

As museums jumped into crisis-response mode, they were forced to swiftly develop or rethink technological strategies—but also to address crucial questions of financial sustainability, equity and accountability, and mission fulfillment in a digital-first world.

The pandemic devastated the arts and culture sector, **particularly museums**, yet with each emergent challenge, the people comprising the workforces of these institutions responded with creative adaptability and bold innovation. The collective pivot to digital marks a flash point for the field, one which is already reshaping the structure and role of museums in their communities and society at large.

Even as the pandemic wanes and public life resumes, ongoing challenges persist. The cultural sector is just beginning to recover and engage with the potential that pandemic-era adaptations revealed. Looking ahead, industry leaders envision a digital paradigm in which museums can foster institutional resilience, deepen community engagement, and deliver on their missions to nurture connection and cultural value in an era of uncertainty and possibility.

This report will highlight case studies from various museums that successfully pivoted to digital during the pandemic and examine what long-term lessons museum professionals can learn from these digital experiments and adaptations to ensure the field is prepared to handle the next crisis.

Disruption

On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic.

Mass lockdowns and public health restrictions forced 85,000 institutions comprising **90 percent of the world's museums** to close their doors, with no visibility as to when or if they would ever reopen. The loss of visitors, admission fees, and revenue streams eviscerated museums' operating budgets and workforces.

At the pandemic's onset, the American Alliance of Museums (AAM) stated that museums in the U.S. were collectively losing at least thirty-three million dollars per day due to COVID-19 closures, and estimated that as many as 30 percent of museums, mostly in small and rural communities, would not reopen without emergency financial assistance.

Two months later in May 2020, AAM—like so many of the 35,000 museums it represents—did its own digital pivot and nimbly adapted what would have been its in-person Annual Meeting to a completely virtual format. AAM President and CEO Laura Lott addressed the museum industry remotely and put into words what many were feeling and thinking: "How we choose to move through the impacts of the pandemic will determine the future of our museums for years to come.… One thing is clear: The museums we closed will not be the museums we reopen."

The extent of the sector's extreme financial distress came into full view when AAM fielded its first **National Survey of COVID-19 Impact on United States Museums** during June 2020. The survey of more than seven hundred and fifty museum directors revealed that more than half of U.S. museums were running on less than six months of operating reserves, and that 44 percent had either furloughed or laid off some percentage of their workforce.

Successes

In navigating a new digital landscape, museums found early success in the social media and pop-cultural sphere by launching digital initiatives that delighted the public with their ingenuity and originality.

With the public rapidly migrating online and onto social media at unprecedented rates due to pandemic lockdowns, museums challenged themselves to create completely new ways to meet the demand for social engagement and some form of connection to the in-person experiences that audiences missed.

More than a hundred thousand people self-quarantining at home participated in the J. Paul Getty Museum's **#GettyMuseumChallenge**, using everyday household items to create their own interpretations of famous artworks that they would then share on social media.

The Frick Collection offered online audiences informal art history lessons at happy hour through its **Cocktails with a Curator** video series, which reached upwards of **1.7 million views on YouTube**.

Several museums discovered their social-media sweet spot by meeting audiences' demand for short-form content, especially vertically-shot videos.

Museums such as The Carnegie Museum of Natural History with its comedic master of mollusks Tim Pearce, and the Sacramento History Museum's demonstrations of its historic printing press by "Howard the Printer" saw their videos go viral on TikTok, becoming pioneering case study examples for other museums to examine and emulate to learn how to win over new audiences.

Museums also embraced the opportunity to either repackage or more assertively promote their existing digital offerings, some of which were launched pre-pandemic, or accelerate digital initiatives in which planning was already underway before COVID-19.

The most popular of these offerings were virtual experiences, like the Metropolitan Museum of Art's award-winning **The Met 360 Project** series of 360-degree video walkthroughs of its galleries, and virtual tours powered by 3D spatial-capture platforms such as **Matterport**.

New forms of augmented and extended reality, like the Norton Museum of Art's **Norton Art+** app or the **Akron Art Museum's Interplay: Art Play for All** experience, in which art could be "brought to life" by scanning QR codes on 5,000 posters distributed throughout the city's neighborhoods, also were launched during the pandemic and proved popular.

But one of the greatest case studies of digital transformation in museums came from **Shedd Aquarium**, in the form of a black-and-white "ambassador" who would waddle into millions of people's hearts.

CASE STUDY: Shedd Aquarium "Waddles" Into the Spotlight
by Andrea Rodgers

Looking nature in the eye has never been more necessary or powerful. We know that when people experience animals and nature, it motivates an emotional, empathetic response that shifts attitudes and fosters a personal responsibility for conservation and stewardship of local waters, global oceans, and wildlife. We also know that in an age of increased urbanization, unequal access to nature, and significant biodiversity loss, greater opportunity must exist to provide connections and interactions with nature by reaching people in more personally and culturally relevant ways—unbound by walls, geographies, or abilities.

For John G. Shedd Aquarium in Chicago, this acknowledgment takes form in many ways—one of which is an intentional and deep investment in harnessing the power of immersive and innovative digital content that can allow anyone, anywhere to experience animals in remarkable ways. In a shift in 2017 lovingly labeled the EVERYWHERE strategy within our 2030 Centennial Commitment Strategic Plan, we no longer defined the word

"guest" only within the context of a physical visit to the aquarium. We decided to also consider as guests the millions more who engage with us virtually in web-based experiences and programs, online and social content, and digital learning offerings.

Disruption Breeds Innovation
As the U.S. began to shutter public venues in early 2020 due to the impending dangers of COVID-19, zoos and aquariums faced an entirely new landscape in which physical visits were restricted.

Shedd Aquarium immediately realized it would need to pivot its approach to engaging audiences in a vastly unknown and ever-changing environment, creating an overnight acceleration of our EVERYWHERE work.

And with people starting to depend more on time outdoors and in nature as a safe space for recreation and reprieve, our ambitions to imagine

All images courtesy of ©Shedd Aquarium

a digital network in which people are inspired to act via consumer-focused, conservation-based content and advocacy began to take shape.

We didn't know it at the time, but we were about to embark on an entrepreneurial journey over the next eighteen months that would teach us numerous insights about what audiences truly want, lessons that would help future-proof our workplace, and how disruption can actually breed innovation.

A Star Is Born

It was 3 p.m. on Friday, March 13, 2020, when Shedd Aquarium's senior leadership team made the decision to voluntarily close its doors to the public for two weeks to do its part in flattening the curve of COVID-19. With an hour left in the last in-building workday for most, thirty people representing eight departments huddled in a room to attempt to answer three questions:

- How are we going to keep people virtually engaged with our mission while our physical doors are closed?

- How can we continue to spotlight the high level of care and welfare our animals receive?

- What planning tools, mechanisms, and processes must be established to help us work collaboratively and successfully over the next fourteen days?

Representatives from across the aquarium brainstormed ways to create virtual behind-the-scenes moments for audiences via social media platforms, took inventory of story ideas and assets currently at our fingertips, and questioned how an organization normally privileged to have a robust team of communications, media, and content developers would now make "new" content possible with restricted access.

With a myriad of ideas beginning to be mapped, the marketing and public relations teams knew that content would need to take an agile, audience-centric approach. Typical highly formatted and polished product standards would now need to be relaxed, quarterly editorial plans

would need to be substituted with day-to-day and as-available assets, and traditional ownership roles would need to move to all-hands-on-deck collaboration.

Shedd's animal care team would be among a small handful of staff roles essential to remain working onsite. Quickly, they volunteered to take photos and video of the work that would continue inside of the aquarium walls.

Two days later, on Sunday, March 15, 2020, an email with a cell phone video arrived in our inbox with a simple question: "Is this kind of what you are looking for?"

It was. It really was.

Filmed by animal caretaker Michelle Natasowski, who had recorded one of the daily animal enrichment sessions on her phone, the video depicted a rockhopper penguin named Wellington taking advantage of the building's quiet halls and empty spaces. In the Amazon Rising exhibit, the bird's natural curiosity for the South American aquatic life behind the glass was on full display. Over twenty-seven seconds, he looked left, he looked right, and then he walked over to the red-bellied piranha habitat and looked on with sheer inquisitiveness.

Shedd's social media team soon after posted the "penguin field trip" to the aquarium's social channels, while the PR team simultaneously pushed it out to local and national digital media desks. The joint strategy paid off. Both TIME.com and CNN.com picked up the story and pushed online readers to Shedd's channels, creating the greatest viral video in the aquarium's history overnight.

By aligning our earned media efforts with our owned channels, we achieved a massive response, reaching over forty-three million people across social platforms and thousands of high-profile earned media placements. The content received comments and replies from people on all seven continents, explaining how the video provided them with a moment of joy and respite, if only for a minute, from the uncertain world around them.

"Can we please get more of this?" said one of the first comments.

"Please I need a longer version," said another.

The team listened and adapted subsequent content according to audience feedback and performance metrics.

Following the first video's success, Shedd teams decided to center the heart of our initial engagement strategy around penguin field trips, allowing them to be guides to other species at the aquarium, as well as ambassadors for curiosity and exploration in a locked-down world. A series of additional videos followed, now including both

rockhopper and Magellanic species exploring the aquarium's Caribbean Reef habitat, coming eye-to-eye in underwater viewing with beluga whales, and hopping down the stairs of the aquarium's grand entrance. Soon, it became clear that the museum's closure would last beyond the initial fourteen days. In addition, our motivations had evolved from bringing visibility to the public of what was going on at the aquarium to bringing continual joy and respite to audiences globally, through exploration via the eyes and experiences of our animals.

From Social Channels to Societal Good
As penguin popularity soared, we recognized our animals could serve a broader civic good as ambassadors for Chicago and Illinois at large. Chicago's mayor partnered with the aquarium to create the concept of an online video series that could help address the abrupt shift for families to remote learning. Based on the success of that partnership, Shedd extended the concept into the free "Stay Home with Shedd" video series designed for third- through fifth-grade students that include high-quality digital programs

inclusive of on-demand learning lessons and complimentary teacher guides.

Illinois Governor J.B. Pritzker also asked to enlist Wellington's help to encourage residents to "make like the penguins and stay home to stay safe," partnering with Shedd in the development of a statewide public service announcement to encourage participation in the state's stay-at-home order. And nationally, Dr. Anthony Fauci, former Chief Medical Advisor to the United States, wore a penguin face mask gifted to him by Shedd for many of his COVID-19 briefings.

When it was time to safely reopen Shedd's doors to the public, we also found ways for the penguins to contribute to the recovery of our cultural partners—broadening their impact and influence. Shedd's penguins began to take their field trips offsite, visiting locations across the city like the Field Museum of Natural History, Museum of Contemporary Art, and Soldier Field. These visits empowered Chicagoans to go out and safely support organizations that were hit hard by the pandemic.

Impact and Lessons Learned

While our big idea was built in a day, as a reactive strategy born out of necessity, it was designed to be optimized, scaled, and adapted. Whether it was creating virtual educational resources for remote learners and shelter-in-place families or online "encounters" to provide up-close experiences with our amazing animals, we let go of traditional


ownership roles, relaxed production expectations, and listened and responded to our audiences, which created a greater sense of co-authorship within our internal culture and with the public. We stayed true to the principles within our experiential brand guidelines to ensure content always represented our unique mission, vision, values, and principles, and looked beyond our own needs to extend influence for the greater good.

In total, our videos garnered over eighty-eight million impressions, were 29 percent more engaging than non-field-trip content and saw responses from 135 countries across seven continents (including Antarctica). Shedd's social media audiences and engagement rates grew significantly—from 543,272 fans and followers across all platforms in 2019 to 950,844 by the end of 2021. The hashtag #WheresWellington also originated with Shedd, which has now seen eleven million impressions, 975,000 engagements and over twenty-four thousand shares. And Shedd's annual earned media placements increased more than 200 percent annually from 2019 to 2020, equating to a 198 percent increase in overall audience reach (twenty-six billion vs. 8.7 billion).

Beyond hard numbers from our media and social impressions, these posts allowed us to grow a small idea into a movement, bolstering our ability to deliver our mission, to build empathy for animals, and to grow public support to safeguard nature and animals in the wild.

We inspired curiosity among the youngest generation of learners by supplementing gaps left by remote learning with accessible, free educational resources. These resources generated seventeen thousand downloads and more than 123 million impressions, were featured on shows such as NBC Nightly News: Kid's Edition with fascinating and fun animal biology and resulted in a children's picture book with a major publisher. Edward and Annie: A Penguin Adventure was printed and released in Spring 2022 with a portion of sale proceeds going to support the care of Shedd's penguins and conservations for penguins in the wild.
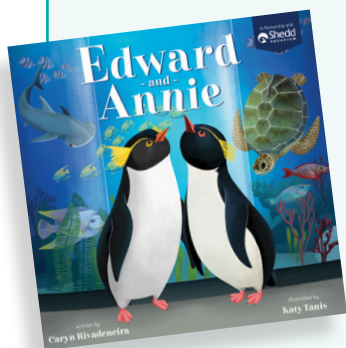
Finally, Wellington was named the Chicago Tribune's "Chicagoan of the Year"—the first non-human to win the accolade.

Since then, we haven't rested on our laurels.

Building upon this success, we have made additional investments in testing content from the many lessons we learned along the way. By piloting different features into our social posts, from trending sounds to consumer-relevant reels, and continuing to intentionally cultivate and engage the new audiences acquired during our growth period, the aquarium's online audience (TikTok + Facebook + Twitter + Instagram + YouTube) has grown to 1.12 million people today. From the unprecedented growth of Shedd's brand and social media footprint, made possible by a workplace culture that empowered caretaker storytellers like Michelle Natasowski to film that first fateful video of Wellington, here are some of the decision-making principles we have identified that you can consider adopting to inform your future priorities.

As we look to the future, we will continue to test different content formats and integrations, work to ensure culturally relevant and inclusive practices are embedded and at the forefront of all our work, explore different models for third-party licensing and distribution strategies, and continue to work to identify partnerships that accelerate access and connection to nature for all.

Andrea Rodgers is Senior Vice President of External Affairs and Marketing at Shedd Aquarium.

ACTIONABLE ADVICE

■ **Give your audience what it wants – listen, audit, and adapt.** The continued success of the penguin field trips was in part because we listened to audience feedback and performance analytics and delivered pivots accordingly. This was true not only in content adaptations (length, format, locations), but also in recognizing the original motivations of our engagement strategy had evolved, from inward goals of providing visibility inside of Shedd's walls to outward goals of providing joy, and we leaned into it.

■ **Everyone is a storyteller – use them.** Shedd Aquarium's culture is strongly tied to pride and passion of our mission. Regardless of what team you work on, we all share in the singular motivation to spark compassion, curiosity and conservation for the aquatic animal world, and each of us brings a unique contribution or view in HOW we deliver it. Inviting co-authorship in content creation outside of traditional ownership dynamics and relaxing product development processes allowed us to be nimble, agile, and more accessible and diverse in our storytelling.

■ **Partnerships are key – link arms to amplify reach and grow audiences, faster.** By linking arms with others, we were able to connect with more people and contribute in more ways, faster than we could have done alone. Partnerships allowed us to broaden our existing audience and cultivate new ones, strengthen relationships with influencers and leaders, and develop inroads with the community. No matter the size and scale of your project and/or resources, partnerships are a great way to grow your brand.

■ **Invest in defining your brand early – lean on it to help guide your decision-making.** As success and awareness of our digital programs grew throughout the pandemic, we were approached to participate in a diverse array of other opportunities. To ensure our brand value remained strong, consistent, and true to what makes us distinctively "Shedd," we leaned on the guidelines and tenets within our defined "experiential brand" to serve as a north star in our decision-making. Having these rules and standards allowed us to have the resources in place to vet different requests reliably, and to keep our brand recognizable and appropriately aligned.

The Hybrid Future

The early weeks and months of the pandemic turned a confluence of crises into a high-stakes test of agility and adaptability, but also served to clarify museums' core missions and reveal a profound opportunity: to rethink what fostering community and cultural meaning could look like in virtual spaces.

During this time, 75 percent of U.S. museums stepped up and **filled pivotal roles** as educators, providing virtual educational programs, experiences, and curricula to students, parents, and teachers, according to AAM survey data.

By November 2020, 75 percent of museums in an International Council of Museums (ICOM) survey reported they were aiming to **increase their digital offerings** by the next year.

However, as the pandemic wore on, this wholesale embrace of digital was complicated by a realization that it would be neither an economic nor a social or cultural panacea. Although museums sought to cope with the pandemic by creatively replacing traditional revenue models, **AAM data showed** that digital fundraising event revenues in 2020 were trending down, falling 34 percent short of the fundraising amounts achieved in traditionally in-person activities.

Not all content can or should be converted to or consumed as digital media, and for all the value that virtual tours and exhibitions provided during the pandemic, it was becoming apparent that they could not be the equivalent of experiencing a gallery or object or event in person.

Despite the initial allure of digital and virtual formats, within the first 12 months of the pandemic, the public was desperate to return to in-person life, suggesting that people still desired physical experiences and valued face-to-face social interaction.

In addition, even as digital initiatives opened up museums to new audiences, unequal technological access meant **barriers to entry** remained for some of the same underserved populations and demographics that museums have historically struggled to reach.

As pandemic restrictions began to fade, it became clear that museums would need to navigate a new hyperfluid terrain of competing demands and priorities. The post-pandemic landscape would be neither a return to exclusive onsite experiences nor a wholesale transition to virtual reality. Rather, it would be an as-yet-unimagined hybridization of both. This in turn distilled a new challenge for museums: determining what types of programming work best in a virtual environment or in-person, and how to bridge that divide and balance their virtual and physical spaces most effectively.

In early 2022, Cuseum, a leading provider of software for museums and cultural institutions (disclosure: the author of this report is the founder and CEO of Cuseum), conducted a survey of more than five hundred museums and cultural organizations which aimed to answer several key questions regarding the landscape of virtual and hybrid programming in the field, including the persistence and future value of digital programs and hybrid virtual/in-person offerings.

The results were published in late 2022 in a two-part report, **"The State of Virtual and Hybrid Offerings at Cultural Organizations,"** and revealed several trends. Notably, while few museums initially expected virtual programming to remain viable sources of engagement long-term, the total

number of virtual programs had increased since 2021, with **94 percent of respondents currently offering such programs**. In addition, 75 percent of respondents expected to continue virtual programs beyond 2022.

Some types of virtual and hybrid programming proved to have more persistent popularity than others, most notably virtual lectures and symposia. Eighty-four percent of respondents were offering virtual-only lectures in 2022 and 82 percent in a hybrid virtual/in-person format, making lectures the most widespread virtual initiative across museums and cultural organizations.

Since the pandemic began, these programs have proven enormously effective at garnering large audiences, engaging nonlocal supporters, and generating revenue and a high return on investment considering the low number of staff hours required to execute. "We've had great success in hosting valuable speakers digitally, without the high cost of travel and hotel accommodations. Instead, we can charge reasonable ticket prices to cover the speaker fee and provide engaging content for our viewers," said Kaitlin LeRoy, Membership Manager at Brandywine Conservancy & Museum of Art.

On the other hand, respondents agreed some virtual program formats would be more of a challenge to keep running and thus unlikely to continue, including virtual social and community events, summer camps, and galas.

Lessons

Though data suggests people still **prefer in-person cultural experiences,** digital engagement rates continue to skyrocket, and **more than half** of museums in a 2021 Cuseum survey said that they were prioritizing investment in technological solutions to enhance digital and hybrid engagement. As museums navigate this new sphere, the path to success will be formed by three key concepts, each with concrete takeaways:

Adaptability: investing in new technologies, responding to public priorities and community needs, and expanding reach to new audiences

Agility: streamlining institutional structures to improve operational efficiency; being responsive to social, cultural, and economic shifts; and ensuring disaster preparedness with contingency plans

Innovation: experimenting without fear of failure, rethinking approaches to engagement, and creating new revenue streams

The following is a breakdown of each.

1. Adaptability

Investing in New Technologies
Defining the utility and value of digital engagement in all contexts demands pragmatic and principled self-reflection. Museums can start this assessment by weighing the respective benefits and disadvantages of their digital and physical spaces.

In his keynote speech at the American Alliance of Museum's 2022 Annual Meeting in Boston, exhibition designer **Jake Barton**, founder and principal of Local Projects, proposed museums use a decision-making diagram that balances "difficulty" and "originality" in assessing the rationale for and purpose of digital engagement, and reconsider their missions in a virtual environment.

As museums increasingly embrace digital initiatives long-term and consider which have staying power, they will need to consider **several variables**, including the future-proof potential, unique value, and resource investment required by the potential program or offering.

Responding to Public Priorities and Community Needs

Many museums have long-standing relationships with local schools, and it is not unusual for cultural institutions to have one or more staff members dedicated entirely to K-12 or youth programs. In the early days of the pandemic, when both cultural and educational institutions were forced to close, museums translated much of their K-12 programming to virtual formats.

In 2022, the demand for such digital programming remains high. According to a **Cuseum 2022** survey, virtual K-12 educational programming at museums – a critical mode of community connection and engagement – is still the third most popular area of digital programming.

Even though schools across the U.S. are back in-person, districts may not be cleared to take students on in-person excursions or field trips. Putting aside the pandemic, schools may be interested in gaining access to nonlocal institutions through virtual platforms. As a result, museums and cultural organizations continue to create virtual programming and educational resources that will support educational institutions, teachers, students, and parents.

AAM data shows that one of the **top concerns** museum-goers and the broader population continue to have about their communities is the potentially irreversible damage inflicted on children's education due to the pandemic learning loss resulting from remote schooling. Because communities matter to museums, institutions will have to consider adopting a posture of seeking to better understand public priorities so when systems buckle, museums can step in to fill the gaps and help communities more effectively.

Expanding Reach to New Audiences

An unexpectedly positive result of increased virtual programming was its efficacy in reaching new audiences, often those underrepresented in museum visitor and member bases. Indeed, digital arts and culture activities have shown remarkable levels of participation, often **more demographically diverse** than in-person attendance had been.

Seminars, forums, and workshops dedicated to community investment and support helped to alleviate barriers to access and deepen museum ties to their communities. For instance, **Montclair Art Museum's** virtual town halls, which were deliberately paired with a current exhibition on display tackling themes such as colonialism, race, sexuality, or gender, were r**esounding successes**, drawing local community leaders and residents into productive dialogue on issues of art and social justice. Crucially, they also led to swift material action, including in-person programs and summer camps for marginalized members of the community.

Some museums have even reported this diverse digital attendance led to more diversity in their in-person audience after reopening. "It's been a wake-up call....Our attendance, our demographic is different to what it was before COVID," said Dr. Linda Silver, Chief Executive of the **Perot Museum of Nature and Science in Dallas.**

All images courtesy of The Andy Warhol Museum, Pittsburgh, © The Learning and Public Engagement Department

CASE STUDY: How the Andy Warhol Museum Rebooted the 'Machine'
by Nicole Dezelon

While the Andy Warhol Museum may have shut down during the COVID-19 closures, that didn't

mean that we as museum creatives were able to shut down and patiently await a reopening that might never come. In fact, that was the very antithesis of what we needed to do. We had to be open to new modes of learning, to innovation, and even to failure.

In retrospect, this line of thinking was very Warholian—since we couldn't shut the machine off, we might as well reboot it!

This ethos set the course for how we would

navigate and lead our team through crisis. We started with a "confetti" approach to digital strategy, creating many small, individual, easy-to-release learning activities versus developing a more strategic, unified, evolving digital platform for longer-term engagement.

Channeling Andy Warhol Into Homes
Our first rapid response to the museum's closure was our Making It video series. The series was our way of maintaining The Warhol Museum's relevancy while sustaining engagement with our audiences. On March 27, 2020, thirteen days after the museum's closure, we launched the first Making It video on YouTube about Andy Warhol's marbleizing technique. Since 2020, we created twenty-seven videos in the series that collectively generated 270,000 video views on YouTube. By adapting Andy Warhol's artistic processes and techniques using common household materials, we were able to reach students, families, and
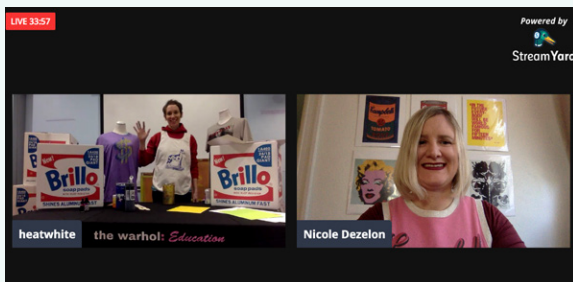

The reason I'm painting this way is that I want to be a machine.

–Andy Warhol
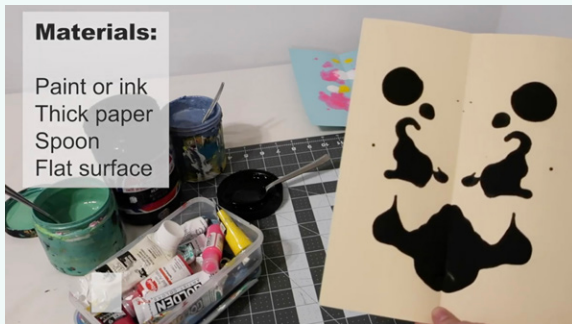
makers of all ages virtually from the comfort of home. The series is available on YouTube and has been a huge success. We were even shortlisted by Kids in Museums for "Best International Digital Activity" in its one-off Family Friendly Museum From Home award series celebrating how museums have supported families through lockdown. This nomination gave us the feedback we needed to continue producing the series.

One early lesson from this digital experiment was not to be too fixated on production values. We were initially hesitant to publish these self-filmed videos because they lacked the production quality of the process videos we had created for online and in-gallery purposes before. But our audiences did not seem to mind that the series took a more homespun approach. We found that teachers in particular really responded to these videos, not only because they could quickly upload them to their own learning management systems, but because they were inspired to create their own art-making videos for their students. We began to provide online sessions with teachers showing them how to create an easy set-up using an iPhone or digital camera and introduced them to
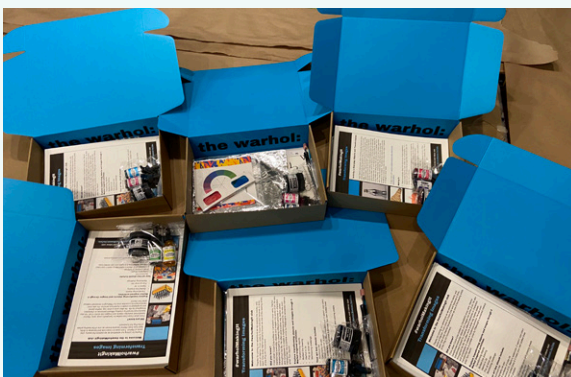
video editing software like Adobe Premiere and iMovie.

We also learned from making the series that many families, teachers, and students didn't have access to art materials at home, and as a result started distributing our Making It Art Boxes, which were limited edition curated boxes containing art supplies, activities with instructions, links to media, and select products from The Warhol store. The boxes were created around three themes— Portraiture, Transformation, and Repetition—and could easily be ordered online. While they were successful in terms of popularity, they were unfortunately not sustainable. Due to sudden staff furloughs, we could not keep up with the demand needed to process online orders, source materials, assemble the boxes, and ship them out.

Prioritizing Schools and Families

We understood that it was an overwhelming time for teachers, students, and parents, and we wanted to meet that need with schools we worked with locally as well as those nationally and internationally. Therefore, our second rapid response was the launch of our virtual field trips.

Through live videoconferencing, participants could discuss works of art in our galleries, watch presentations, and participate in live art-making activities while sharing in two-way conversations with museum educators. We tailored many of our online lessons exploring Warhol's life, artistic practice, and legacy for a virtual experience. From

Pop Art to silkscreen printing, virtual field trips could easily be scheduled online, and scholarships were made available for schools demonstrating need.

The Warhol conducted approximately fifty-two virtual field trips between the months of September 2020 and June 2021, enabling local and distant groups alike to easily access the museum's collections and resources. Read more findings from our virtual tours here. (link to pdf. AAM to upload to their server and provide link)

Developing our virtual field trip program was critical to enabling us to complete the numerous Artists in Schools residencies that were already underway. These residencies were grant-funded, therefore seeing them through to completion was critical to ensure future funding. These partnerships pivoted from an in-person to virtual format as classroom teachers sought to supplement COVID-19-mandated virtual learning with arts activities and experiences. Virtual partnerships responded to teachers' and students' emerging need for engaging content and hands-on activities that offered a different kind of learning experience. Read more findings from our Artists in Schools partnerships here.

Doubling Down on Gen-Z

Our third rapid response area was focused on our longstanding commitment to youth engagement and empowerment. As the pandemic dragged on, many of the teens who participate in our programs began to express mental health concerns due to social isolation.

We quickly launched an online Gen-Z Time Capsule, a participatory art project where students could submit a photo of an object that best represents their generation. We received 222 digital submissions. Ninety percent came from the U.S., but submissions also came from Ecuador, Canada, Korea, and other parts of the world. It spread through school districts, across social media, and through peer referrals, giving voice to kids who felt silenced. What emerged was a nuanced portrait of the joys, anxieties, and obsessions of Generation Z during a global pandemic.

We also maintained critical engagement with teens through our Youth Arts Council (YAC), who operate as a group of ambassadors, designing events and experiences that help engage other youth in the museum's offerings. The council continued to convene for weekly meetings virtually throughout the pandemic, and shifted their focus to online events, digital publications, and public art projects. To facilitate this, our educators assembled care packages and art materials and dropped them off to every student's home. Despite the temporary museum closure in 2020, YAC reimagined their annual in-person Youth Invasion event by producing a virtual zine called Quaran-Zine.

In 2021, as the museum slowly reopened, YAC shifted to a hybrid model, conducting meetings both onsite and online and reimagining Youth Invasion as an outdoor public art event. We were finally able to host Youth Invasion in the museum in 2022, where 350 teens attended and reconnected through art, music, food, and performances. Read more findings from our Youth Arts Council here. (link to pdf. AAM to upload to their server and provide link)

Lessons Learned

It can be difficult to find hope in such unpredictable times but remember that small actions and victories lead to bigger ones, and the improbable can become possible when we reframe our thinking:

■ **Learn to crowdsource instead of crowd surf:** During unprecedented times we look to one another for guidance on how to move forward. Learning how to use the collective wisdom of

the crowd instead of getting lost in the sea of possibilities is key. Narrow down the range of potential paths forward; the direction one museum is going may not be the right direction for your museum.

■ **Know when to hold, know when to fold, and know when to walk away:** Identify your core programming central to your mission and find a way to hold on to it at all costs. Know when to fold; when resources become limited you can't afford to invest time and money into programs and exhibitions that no longer meet the needs of your target audiences. Don't be afraid to walk away— from new projects, partnerships, or opportunities. Learning how to say "no" can improve the quality of work and mental health across your museum.

■ **Tap into youth culture:** Don't write off young people, they are instrumental in helping museums maintain relevancy by keeping us abreast of quickly changing cultural and generational shifts. Every generation is stereotyped, but Gen Z became our biggest champion in helping us capture the zeitgeist of the pandemic and providing an intimate and complex glimpse into the soul of their generation.

■ **Remember that failure is not an option:** Develop a learner's mindset and center experiential learning in your museum. Encourage active experimentation with new ideas, new technologies, and new modes of working without the fear of failure. We learn a small amount from theory, a large amount from practice, and an infinite amount from our mistakes!

As we collectively learn how to navigate the new normal, we must not only survive but thrive in the age of COVID-19. I look forward to furthering The Andy Warhol Museum's position as a responsive, interactive, and transformative twenty-first-century museum as we reach new audiences locally, nationally, and internationally. I believe our pivot to online learning and digital engagement has established a strong foundation to help us achieve these goals.

While it's still a lot to juggle, especially with limited staff, my experience working in many different teaching environments, often with strained resources, has allowed me to find daylight where others could not.

My advice is to never shut down the machine. Reboot it and run with it; you just may find that the risks you took and the new paths you forged were not only worth it, but vital to meeting the demands of a new world.

Nicole Dezelon is Director of Learning and Public Engagement at The Andy Warhol Museum, one of the four Carnegie Museums of Pittsburgh.

2. Agility

Streamlining Institutional Structures

Over the course of the pandemic, as people settled into routines of remote work and schooling, institutional attitudes toward digital initiatives began to shift. More museums prioritized digital upgrades to their internal operational infrastructure, including work-from-home setups for remote collaboration and investment in data analytics and performance monitoring. These more vigorous data collection and communication channels allowed for more constituent feedback, improving the **value of programming and the visitor experience**, bolstering engagement, and fortifying a lasting and loyal relationship with members and donors. Organizations implemented **artificial-intelligence technologies** in their approach to user experience, and used predictive data modeling software to project attendance and revenue outcomes in various future scenarios, improving preparedness and contingency plans.

Strategic adaptation and ad hoc utilization of digital tools gave way to more formal institutional plans with longer time horizons. A proof of concept began to crystallize, with nine out of ten executives across all industries **promoting hybridization** as a model for the future labor market, and hybridized organizations reporting higher team productivity and higher satisfaction among constituents.

Being Responsive to Shifts in Equity

Especially for public-facing entities plugged into the social and cultural milieu, the necessity of pivoting to digital engagement was intertwined with a new dictate to address and rectify failures or inadequacies of racial, social, and economic equity.

Social movements like the racial justice protests of 2020 drew greater attention than usual from a homebound public spending more time on social media and consuming news content, and this increased visibility spurred overdue dialogues on race. This led to a heightened focus on exclusion and inequity in arts and culture institutions.

Many museums came forward in support of the Black Lives Matter movement. They began an introspective reassessment of institutional biases and accelerated efforts to **diversify beyond the white male perspective** in content and curation. They launched initiatives and **provided digital tools** to help audiences engage with social justice issues. Many went further, increasing budgets and staff dedicated to more **inclusive and diverse community engagement**, improving **visitor experience** accessibility, and demonstrating a commitment to restorative justice through financial **transparency** and operational accountability.

This moved museums into deeper interrogations of what mission fulfillment should look like in a new social and technological ecosystem. "I need to readjust our measurement for success in 2020," **said** Elysia Borowy-Reeder, Executive Director and Chief Curator at **Museum of Contemporary Art Detroit.** "Our success isn't going to come from funders through our door. We have to make our impact through getting back on our feet and having deeper community engagement."

Ensuring Disaster Preparedness

One of the first lessons learned in the pandemic was the importance of investing in disaster preparedness—not only for public health and safety, but to address the many other potential crises that threaten museums and the communities they serve. **Research showed** that how museums approached digital and data-driven operations was a considerable factor in how well-prepared they were for a pandemic.

Public health crises are not discrete phenomena, but rather part of a global crisis system that includes sociopolitical upheaval, economic instability, and climate change. Whether the next critical threat is a new COVID variant, another virus, extreme weather events, or financial collapse, the resilience of the field will depend on lessons learned over the last few years.

What the strategic responses will look like will in some cases depend on the particular location, community needs, and mission of each institution. Many more, however, are shared challenges that will require collaboration and idea-sharing—and an expansion of the role of the museum in public life. As **ICOM noted**, museums are ideally positioned to "strengthen cultural identities, support social cohesion and develop intercultural mediation—activities which are fundamental in times of crisis."

3. Innovation

Experimenting Without Fear of Failure

Mirroring a trend **extending globally** and **across industries,** large, established, well-funded institutions like The Metropolitan Museum of Art and the **Smithsonian Institution** had pre-existing infrastructure and offerings in place that allowed them to more **swiftly and smoothly** pivot to virtual, leveraging already-digitized collections, reallocating resources and furloughing fewer staff, and affording them greater leeway to experiment and innovate.

That said, many smaller museums, more nimble and resourceful with the assets at their disposal, successfully leveraged their **strong ties with local communities** and were effective in making use of newer content distribution formats like **podcasts.** An example of this can be found in the case study of how Joe Williams, the Plains Art Museum's Director of Community Education and Director of Native American Programs, launched the 5 Plain Questions podcast during the pandemic. The podcast, which spotlights Native American and Indigenous artists and voices, has seen its subscriber base grow to nearly 22,000 listeners since its launch and become a platform with national reach.

Rethinking Engagement

Hybrid technology, like augmented reality and onsite virtual reality, helps **engage visitors** as well, and museums are increasingly open to taking cues from other industries in how to use them, including gaming. Erinrose Sullivan, Head of Museums and Cultural Heritage at SO REAL, a 3D scanning and conversion company, **said:** "Artwork could be incorporated into a game that can enrich a player's online life and even play an integral role in the experience itself, an incredibly exciting way to bring in a new generation of art lovers."

Digital applications like these have potential as a tool for museums to tackle and experiment with questions of what engaging with art and culture looks like in a digital-first era. But it will **require pushing the boundaries** of what it means to create and experience exhibitions in the analog and digital world.

Creating New Revenue Streams

Of course, fundamental to the survival and success of any institution is the bottom line, and museums are no exception. Two hundred million dollars in relief allocated by the U.S. federal government through the CARES Act in April 2020, and the Paycheck Protection Program loans that followed later, helped to keep many cultural organizations afloat. However, many more continued to struggle with revenue, and so monetization became a central concern.

Some institutions successfully monetized their virtual programs and initiatives, such as the **Barnes Foundation** in Philadelphia, which at the start of the pandemic quickly transitioned its in-person adult education classes in art and art history to live online classes, and created a new revenue stream.

Strategies beyond entrance fees and donations included online marketing and optimization of call to actions/outreach, social media fundraising tools, and e-commerce through virtual gift shops. Member incentives and benefits were another effective avenue of monetization: of **150 membership leaders** surveyed in 2021, 64 percent noted that they were already offering virtual member events/programs, and 62 percent were offering other online membership benefits. Even in 2022, however, of those museums offering digital programming, only 56 percent are monetizing them in some way.

CASE STUDY: The Barnes Foundation's Leap of Faith (and Foresight) Into Monetizing Online Classes
By Will Cary

The Barnes Foundation is a world-class art collection with a progressive educational mission. Our founder, the Philadelphia scientist-turned-collector Albert C. Barnes, believed that art had the capacity to transform lives, and that everyone—not just the elite—should have the opportunity to learn about art. For a century, we have taught art history classes in our galleries, encouraging close observation and a dialogic learning model that prioritizes direct engagement with the instructor, other students, and the objects themselves.

Needless to say, a global pandemic is not ideal for an organization where education happens almost exclusively onsite in our galleries. Before the pandemic, we had already begun to consider what an online version of our adult education program might look like.

In April 2020, we had no choice but to accelerate that thinking, with several classes already underway.

The stakes were real: Our instructors had never taught online before, the technology we'd be using was new, and our information technology (IT) and audiovisual (AV) staff were stretched trying to support the entire organization's move to remote work and launching new digital projects to maintain a connection with our audiences while our doors were closed.

Nonetheless, we decided to take that leap of faith, and the results were far better than we could have imagined. In the thirty months since the pandemic hit, the Barnes has enrolled more than seven thousand students from forty-three states and eight countries in online classes, bringing in more than one million dollars in new

All images courtesy of ©Barnes Foundation
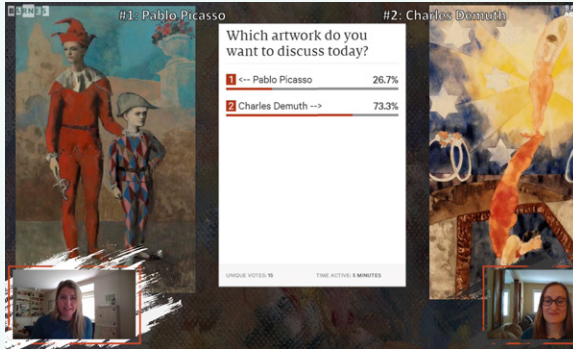
revenue. At the same time, we have quadrupled the number of need-based scholarships we've given out, increasing access to education both by geographical location and economic status.

For us, online education has been the perfect solution to a question that the entire museum field is grappling with: How do we significantly scale our programmatic service online in a way that fulfills our mission while being financially sustainable?

A Leap of Faith and Foresight

We were better prepared than we thought when it came to digital adaptation and transformation, mostly thanks to our crackerjack IT and AV departments. Their foresight in introducing us to digital tools proved invaluable. It turned out that we had taken a leap of faith grounded in foresight.

In fall of 2019, our entire staff participated in a mandatory training session to learn how we might use Microsoft Teams to work in new and different ways remotely and online. After the training, I remember hearing skepticism from some staff about the usefulness of features like chat, recording meetings, and creating shared workflows—the very same features that became a core part of our work and our class offerings as soon as the pandemic hit. When the Barnes made the very difficult decision to close its doors on a Friday in March 2020, we were up and working fully remote on Monday morning. Our training, it turned out, had come at the perfect time.

In addition to organizing trainings, Steve Brady, our Chief Technology Officer, started sending a daily email to the entire staff now working remotely. Affectionately referred to as the "Daily

Dose," these emails were highly practical how-to's for navigating our fully digital workspace, made even more entertaining with catchy subject lines, GIFs, and memes to help explain obscure functionalities. Daily reinforcement (and encouragement!) for using digital tools was a major factor in our success, and the approach of "we may not totally get it, but let's try it" served us well.

What helped us the most with the execution of our online education programs was the discipline and rigor of meeting regularly and holding ourselves accountable. Our "Adult Ed Roundtable" is a working group of staff leaders from Education, IT, AV, and Marketing. While we cover a range of topics—I'll never forget a meeting where we spent twenty-five minutes debating the definition of "hybrid"—there are several agenda items that are always covered, including enrollment and revenue updates, review of survey and other data, and upcoming marketing and promotional initiatives. The other key features of this meeting have been moving on quickly from failures and maintaining a sense of humor (laughter remains crucial, even today). I never thought I could have true affection for a business meeting, but the work of this group has been the most satisfying of my career.

Another Huge Leap

Building on our success during the pandemic, and a century of experience in adult education

before that, the Barnes is now working toward developing a consortium of museums that will collaborate to create a premier platform for online learning and dialogue about the history of art. Using first-of-its-kind technology designed specifically for the teaching of visual media, the Barnes Learning Experience Platform (LXP) aims to become the go-to hub for digital arts education.

While the market for online arts education is crowded—lifelong learners can enroll in art history classes through university continuing education programs or companies like Masterclass or One Day University—what sets museums apart is the fact that we house the physical objects being studied. There is enormous value in this. In the ever-expanding universe of online art history courses, the work of art is transformed into an image—an immaterial, cut-and-pasted specter of itself, endlessly circulated. This platform will reconnect learners with art works as physical objects existing in real space, bringing people inside the galleries of museums around the world to learn directly from the objects and the scholars who study them.

This consortium is an extraordinary opportunity for museums to partner together on a large-scale educational project, teaching from their own collections on a platform designed specifically for that purpose. We are optimistic that this new platform will be a major innovation in the field of digital arts education and that, with adaptations by peer institutions, it will not only help to shape the future of financial sustainability in the arts and culture sector but will truly democratize access to the study of art.

The fact that none of us would have even been able to conceive of this in April 2020 speaks to the power of digital readiness, a mindset for innovation, a collaborative and supportive staff, and even a meme or two for good measure.

Best Practices to Consider

■ **You can't go big without internal alignment:** Cross-functional teams may not succeed unless their executive counterparts have bought in to the idea and are part of the journey. Three members of the senior team at the Barnes have jointly led this online learning project every step of the way.

■ **Back of house can be as flashy as front of house:** High-quality audiovisual, technical, and customer support are really what make a digital project sing—the end product will only go as far as these teams can take them. Invest in them every step of the way.

■ **Find your unique position in the marketplace and stick to it:** Forward-looking projects should still reflect the mission and brand of the organization to maximize their success. Chances are your best leap forward will come from something you were already doing (in the Barnes's case, adult education classes).

■ **Analytics and iteration are your friend:** Even if your organization does not have a Research or Analytics department, gather whatever data you can and bring a group together to regularly review it. It reinforces a level of shared accountability and continuous refinement.

Will Cary is Chief of Business Strategy and Analytics at Barnes Foundation.
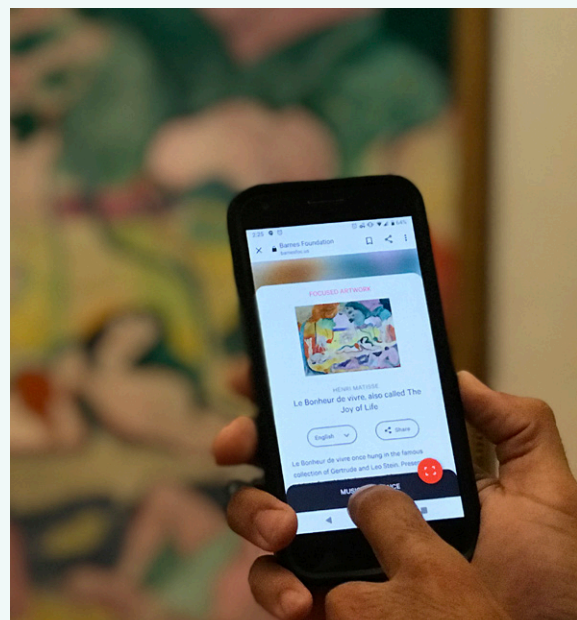
Conclusion

As the world nears the three-year anniversary of the start of the pandemic, residual anxieties persist—about **80 percent of museum directors** still see future virus variants as the biggest looming disruption to business in the coming year—yet people **feel more comfortable returning** in-person to museums than many other cultural activities.

According to IMPACTS Experience data, 2022 has provided some encouraging signs, with actual attendance at museums last year averaging 96.4 percent of their 2019 pre-pandemic attendance levels, and projections as of January 2023 suggesting museums will reach 98.6 percent of their 2019 attendance levels by the end of this year.

The global move to a digital-first paradigm brought on by the pandemic was an unprecedented test, not only of the digital infrastructure within the arts and culture sector, but of its ability to respond to a moment of deep uncertainty and radical change. While the pandemic was responsible for many of the changes that have driven museums' digital transformation, nothing suggests that transformation is complete.

To ensure future success, museums will need to move away from traditional institutional structures and outdated legacy systems, and toward new conceptual and digital frameworks. They will have to learn from the success of their peers, reimagining value and engagement in a new ecosystem. By prioritizing adaptability, agility, and innovation, museums will thrive in the future physical and digital reality and play an integral role in ensuring the survival and flourishing of art, culture, and community.