TECH IN THE GALLERY: AN EXAMINATION OF ONLINE ART PROGRAMMING

By

KYLE WYNDHAM-WEST, B.A.

Supervisor: Professor Dr. David Harris Smith

A Major Research Paper/Project

Submitted to the Department of Communication Studies and Media Arts in Partial Fulfillment of

the Requirements

for the Degree

Master of Arts

in Communication and New Media

McMaster University

Abstract

This case study examines the ways in which some cultural institutions (Cis) in Southern Ontario transitioned their programming to digital platforms. Through uses of new technologies such as augmented reality and virtual reality, CIs were able to utilize digital communications platforms to remain active during the COVID-19 pandemic. With the success of various programs among the institutions surveyed it is clear that digital programming is of benefit to cultural institutions, however the accessibility of these digital platforms still needs to be improved.

Keywords: Online art, museum studies, digital art, accessibility

Introduction	4
Background	,
Methods 1	11
Participants 1	1
Data collection 1	2
Limitations 1	3
Case Studies	14
McMaster Museum of Art 1	15
Agnes Etherington Art Centre 1	9
Hamilton Artists Inc 2	23
Power Plant Gallery	,
Art Gallery of Hamilton)
Art Gallery of Ontario	
Discussion	
Conclusion	,

The Gallery on Tech: Case Studies of Online Art Programming

Technology use has increased in the cultural sector over the past decade and the COVID-19 pandemic has expedited the move to fully digital exhibitions and performances. The introduction of full-scale programming through online spaces is no longer a niche exhibition technique but a practice being explored by large and small cultural institutions. An increase in available technologies such as augmented reality and virtual reality, will expand the formatting and experience of cultural works in digital space. There is, however, hesitation from traditionalists that believe there is some art that can only be truly experienced in person, this is potentially the transition's greatest obstacle. What kinds of art can or should be transitioned into digital spaces? How can this be determined? And, ultimately what can be done to enhance the online experience of art that was created using 'traditional' media formats, such as painting and sculpture?

This multi-level case study is intended to describe and thematize the issues encountered by a selection of cultural institutions in their transition to digital programming. Due to pandemic restrictions, art galleries were forced to transition the majority, if not all, of their programming and services to digital platforms. This came as a result of both public caution and Canadian federal and provincial mandates restricting in-person activities. The loss of in-person visitors, while negatively impacting cultural institutions, also provided opportunities to explore virtual modes of exhibition, a trend that will continue long past the pandemic due to the potential of digital content to reach a larger audience. My study examines galleries' transition to digital platforms through a case study that researches three tiers of institutions: 1) smaller publicly funded galleries and university galleries, 2) medium-sized publicly funded and artist-run centers, and 3) large-scale publicly funded galleries.

4

The research questions guiding this study are what form is digital transition taking and what are the issues of creating online-focused programming for cultural institutions, including opportunities and costs. Among the opportunities and costs, I address how institutions are responding to the needs of accessibility online. Accessibility issues considered for this study may derive from economic, sensory, mobility, and motor accessibility contexts.

This study develops a profile of the present state of transition for these institutions that may be useful for stakeholders in art exhibition beyond those presented here. The study will outline the resources, tactics, and objectives of the art galleries at different levels of funding and access to resources. The findings of this study offer insight into the parameters for creating engaging and accessible online programming for cultural institutions.

After a preliminary consultation with the McMaster Museum of Art, it became clear that there are no existing guides or standards available to these institutions on transitioning programming to digital platforms. Given the disparities in funding between the large-scale and smaller-scale institutions, there is a potential social benefit resulting from this case study, providing small and medium-sized institutions with information they would not otherwise be able to afford to commission.

Background

There is abundant literature on the ongoing transition of culture to digital platforms (Manzûch, 2017, Jeurgens & Karabinos, 2020, Duffy, Nieborg, Poell, 2020). Art galleries and cultural institutions (CIs), for example, art museums, have begun their transition to digital formatting and will continue to grow their digital presence. The literature about the digitization of art galleries and cultural institutions includes the uses of digital technologies for online

exhibitions (Palumbo, 2021) and the impact of virtualization of exhibits on the accessibility of art (Meyer, et. al, 2017, Thebault, 2007).

Online technologies have been of growing interest to artists and art galleries, utilized in the works of multimedia and digital artists, as digital platforms for marketing, and to generate greater audience reach and revenues (Modlinski & Pinto, 2020, p. 3-4). One study that was done in Italy in 2021 found that cultural institutions typically utilized digitization for one of two reasons: to expand internal resources with the additional resources available within digital platforms and/or to create greater attractiveness to visitors (Palumbo, 2021, p.3-4).

The results of Palumbo's (2021) study found that one in three cultural institutions (including art galleries and museums) utilized digitization as a way to increase patronage and found a substantial increase in virtual visits (Palumbo, 2021, p. 6). However, Palumbo noticed that the information communication technologies and cultural digitization were not widely used by publicly funded institutions and therefore saw no major benefits in the public heritage sector from digitization (Palumbo, 2021). Ultimately, the study found that the effective utilization of digitization had a significant link to attractiveness for visitors, indicating that digitization may be a necessary step in the future of CIs (Palumbo, 2021, p.6-7). The correlation between the rise in visitors because of digitization of CIs speaks to the ability that digitization has for connectivity across the networks that are created on interactive platforms (Duffy, et. al, 2020 & Hui Kyong Chun, 2015, p.38-39).

Invisible networks of connectivity are the webs that connect people across platforms of communications, through messaging services, community building over web-based interactive platforms, and mutual attendance to programming for example (Hui Kyong Chun, 2015 & Palumbo, 2021, p.6-7). The digitization of CIs offers the opportunity to create invisible networks

of connectivity for users across their digital platforms on top of its general increase in audience and attendance to the CI (Hui Kyong Chun, 2015 & Palumbo, 2021, p.6-7). Logic would then dictate that publicly funded CIs should promote these services, however, as Palumbo (2021) found the majority of publicly funded institutions involved in his study did not partake in digitization (p.6). It is unclear whether or not this was due to insufficient funding, but it is unquestionably beneficial and should become a priority for publicly funded CIs to increase their ability to serve the public.

Types of technologies used in cultural institutions

There is proof that certain technologies like Personal Data Assistants (PDAs) and the use of interactive monitors have increased visitor interactivity with the material on display and with fellow visitors (von Lehn & Heath, 2005, p. 12-19). While there are issues with the use of PDAs or monitor displays in physical galleries as they create negative effects on the flow of the gallery and hindrance to visitor-to-visitor interaction it is still unclear if this will apply to fully digital exhibitions (von Lehn & Heath, 2005, p. 19). While there are these issues with using technologies in the physical realm, the digital realm provides a greater integration for technologies as they complement the already digital space. They are not added on as secondary items infringing on space, as they are in the physical gallery, instead they can be integrated into the platform of interaction and more seamlessly blend into the user experience and navigation of exhibitions.

Designing exhibitions: physical vs digital space

The ecology of an exhibition is regularly referenced by museum studies scholars as the examination of how an exhibit is designed in order to interact with visitors (von Lehm, Heath, & Hindmarsh, 2005, p.1). Visitors produce their experiences of art exhibitions based on their

available actions and interactions with the materials, artifacts, or art pieces on display (von Lehm, Heath, & Hindmarsh, 2005, p.1). This is a critical aspect of exhibition design and a deciding factor in how exhibitions are laid out in a physical space as it is impressionable and interactive while still providing the visitor with choice (von Lehm, Heath, & Hindmarsh, 2005, p.1). This is an important aspect of an exhibit's success, therefore it is important to examine the ecology of online exhibitions in this study and how emerging technologies can benefit a visitor's experience.

There are different aspects of consideration with the ecology of a physical space based exhibition than that in the digital realm, however there are still similarities. The design of exhibitions has been developed with visitor behaviors in mind. The strength of the interaction is based upon a network of individual encounters building up to a broader perception of the space (von Lehn, Hindmarsh & Heath, 2005, p.3). While navigation and guidance is an important aspect of exhibition design, informal learning opportunities and interactions with the works and other visitors is another important consideration in exhibition design (von Lehn, Hindmarsh & Heath, 2005, p.3). The study of physical space within art galleries provides an insight into what could be the best way to design digital exhibitions. Instead of providing a rigid linear navigation of successive artworks in online exhibitions, there could instead be the experimentation with free-flowing presentation over digital communications technologies and the use of experiential programs through interactive digital interfaces.

Advantages to digitization

While there is clear evidence that the digitization of CIs benefits visitors there are also criticisms of the digitization of culture. While the digitization of cultural heritage has facilitated networks of connectivity, organizational methods, and collaborative networks there have also been issues with the authenticity and interpretation of cultural history because of its digitization (Manzûch, 2017, p.1). One of the larger issues that was found is that the ease of spreadability online would typically remove the context of heritage objects, stripping them of curatorial interpretation, something that is less likely to happen within the walls of memory institutions (Manzûch, 2017, p.7-8).

Disadvantages to digitization

Unfortunately, the digitization of these artifacts runs the risk of legitimizing colonial perspectives in a digital context because of their de-contextualizing misuse and repositioning for misinformation (Jeurgens & Karabinos, 202, p. 205). The use of emerging technologies emphasizes the opportunities and the issues of cultural institutions as they reach greater audiences. The digitization of culture and cultural institutions typically amplifies everything that is currently wrong with the sector as with greater spread and public interaction the ability to criticize and misrepresent grows as well.

This issue seems to be the source of the division in archival studies regarding the digitization of cultural heritage. Naturally, there are worries about context being removed from the works that would be digitized even if there are found to be significant benefits to audiences and patrons. While this will always be a worry, it can be combatted by thoughtful curation and the application of decolonial theories when digitizing (Jeurgens & Karabinos, 202, p. 206-10).

Accessibility Issues in digital cultural institutions

There have been attempts to increase accessibility in the physical gallery space through different accommodations for hard of hearing, sight, and physical space limitations. However, in the transition to digital platforms there is a disconnect between traditional accessibility accommodations and meeting the accessibility standards of ever-evolving digital technologies.

While there are available basic accessibility technologies, such as speech to text, screen readers, and described video, the online formatting of art presents unique accessibility challenges. CIs need to assess the accessibility in their transition to digital platforms and operate with the consideration of more holistic approach that addresses sensory, economic, mobility, and other accessibility issues/opportunities. The physical art gallery has been critiqued from the perspective of critical disability studies ((Kleege, 2018) and this criticism needs to be extended to the digitization of art (Kleege, 2018). However, these issues can be addressed from the start, and continuously as platforms transform, with considerate design and attention to feedback from users.

A Bulgarian study published in 2021 that looked at 55 museums across the country found that no institution offered adequate accessibility systems for users with disabilities to experience the art online (Bogdanova, et. al., p.404-408, 2021). One of the tools that was already in place to make the website accessible was a "screen reader", a computer program that dictates into speech the information on websites for the visually impaired (Bogdanova, et. al., p.405-406, 2021). The issue with this program is that it is heavily dependent on the website's layout and how its design interacts with this program's coding, this can become highly unreliable if not they are not a perfect match (Bogdanova, et. al., p.405-406, 2021). The program also lacks any ability to proficiently describe images without incredibly thorough alternative text provided by the proprietor of the website, the study noted this only appeared in 5.45% of the institutions (Bogdanova, et. al., p.406, 2021).

While there are independent contractors and companies hired to provide audio descriptions for in-person visits that can be published online, it is not commonly done (Luque Colmenero, & Soler Gallego, p. 2-3, 2021). There are experimental multi-sensory accessibility-focused exhibitions that utilize multimedia technologies that fill the gaps left by audio description but they have yet to be done effectively for the public (Luque Colmenero, & Soler Gallego, p. 2-3, 2021). The literature overwhelmingly addresses the accessibility for those who are visually impaired as that seems to be the greatest concern for digital cultural institutions, but there is a gap in research for other disabilities online (Taylor, C., & Perego, p. 35-54, 2020).

Methods

Participants

The research will take the form of a case study (Baxter & Jack, 2005) that will collect information from a sample of three tiers of publicly funded cultural institutions in Ontario. This will aid in a greater understanding of the methods used by cultural institutions to digitize their content and add to the understanding of how to create accessible pathways over the web for all users (Yazan, 2015, p. 142). The objective of this study was to collect data from at least two institutions at each of the distinguished tiers of funding. Privately-owned galleries were not included in the study because their sales-oriented programming is distinct from the attendance-oriented programming of the non-profit and publicly-funded institutions. Their inclusion in this study would potentially dilute or complicate the findings that would prove to be useful to public institutions. The art galleries contacted with interview requests were the smaller-scale institutions, McMaster Museum of Art and the Agnes Etherington Art Centre, medium-sized and artist-run centers Hamilton Artists Inc. and the Power Plant Gallery, and larger-scale institutions the Art Gallery of Hamilton and the Art Gallery of Ontario.

Data Collection

The data collection was done through access to publicly available information about the galleries and through interviews with people occupying roles important to digital transition. The

individuals interviewed had various positions from the collections department, education department, curation, and executive classes. Profiles of the institutions were developed in advance of the interviews from publicly accessible information to determine their uses of technologies for creating virtual exhibits, visitor statistics, exhibition schedules, and more. The information included in these profiles is included in the qualitative analysis, analyzed for themes related to accessibility, the effectiveness of presentation, interactivity, visitor flow, ease of use design, community building, average visitors, funding, and in-person and online exhibitions all from the years 2019 to 2020.

These data provided a comprehensive picture of what the major departments and the gallery as a whole are doing to digitize their content and programming. The questions used in the interviews covered the different aspects of what technological resources were used to make this transition and what form they took, what problems they encountered and what opportunities arose during the process, and what is the place of online exhibition in the future of their institution? This information was then compiled into a case study where the institutions were compared and contrasted using the major themes that emerged from the interviews.

The questions that were proposed to the participants and parameters of the case study are concerns typically highlighted in network theory (Hui Kyong Chun, 2015), platform theory (Duffy, Nieborg, Poell, 2020), accessibility in archival studies (Brilmyer, 2020), and critical disability studies in the context of art (Kleege, 2018).

The major themes that arose were physical accessibility vs. digital accessibility, lack of resources, and increased opportunities for gallery programming. These proved to be influential markers in how each institution approached its transition of content. The main themes that presented themselves were the utilization of external contacts due to limited resources and

working closely with artists, creating accessible programming, and the ability to receive external funding.

Limitations

There were data collection limitations as I was on a strict timeline to complete this study before graduating from my Master's program. The study would have benefited from being able to take more time to interview employees across each institutional department in order to have a thorough representation of every section of the galleries shift into a digital space. While I was successful in talking to executive directors and leaders in the cultural institutions surveyed, there were details in the transitions that they were unable to provide. It would have allowed for a greater breadth of understanding if I would have been able to discuss with other staff such as curators, designers, and even the artists involved in the virtual exhibitions. This study describes how each institution chose to exhibit and operate across its unique platform, but it would have benefited from being able to receive specific logistical information about the process.

I was unable to get an interview with the largest institution that was planned for this study. I was unsuccessful despite many attempts to contact the Art Gallery of Ontario, and then the National Gallery of Canada. This leaves a gap in the research and ultimately does not allow the entire thesis to be answered. This is why there is no information about what the largest publicly funded cultural institutions in Ontario are doing for shifting their programming online. The study would have benefited greatly from being able to examine the AGO or another institution of comparable size.

Case Studies

The following case studies are compilations of the themes that presented themselves within the interviews that were conducted. This methodology was influenced by a

series of fixed questions posed to all interviewed and collated into distinct sections within these case studies allowing for qualitative analysis (Baxter, & Jack, p. 553, 2008). Within the process, I was specifically looking for the themes of problem-solving during the pandemic, accessibility concerns, and opportunities derived from new uses of technologies. These presented themselves in the interviews through examples of the galleries' actions or by direct comments made by the interviewees (Baxter, & Jack, p. 553, 2008). These themes culminated in the main sections used to organize the presentation of each case study: What form is the digital transition at your institution? What are the issues, including opportunities and costs – future directions? How is your institution responding to the needs of accessibility online?

Each case study includes a profile of the institution. These profiles provide context and background to the later interviews. These profiles include financials, visitor information, online habits, number of exhibitions, and more during the timespan of 2019 to 2020. This is information based on the annual reports posted online for these years. These profiles vary as the institutions differ in the types and extent of information that they make publicly available. However, the profiles do offer insights on an institution-by-institution basis, providing context to the interview data.

McMaster Museum of Art

Institutional profile

Located in Hamilton, Ontario this gallery is housed on the campus of McMaster University. Its' presence on the campus of a university provides unique challenges and opportunities. Being directly involved with McMaster University provides this cultural institution with its' notoriety and campaigning ability but leaves it with a smaller budget. Being

hidden away on the campus does not provide this gallery with the similar foot traffic that others in the study receive by being independent housing in downtown metropolitan areas.

The museum had 13, 289 visitors through the door, down from the average 27, 000 the year prior, but this can be accounted for due to the 6.5-month-long closure due to the pandemic. They received an over 70, 000 additional visitors over their digital platforms which included their website at 42, 379 visitors, and their e-museum received another 30, 119 viewers. The gallery received an abundance of digital attendance during the time of closure and continuing through the pandemic. They also received a variety of grants from the Canadian Council of Arts and the Ontario Arts Council that helped funding during the time which ranged from Operating Grants to Sector Development Grants.

When asking this institution for interviews I was able to secure conversations with the director, communications officer, and one of the educational program leads. This provided a thorough response to the questions on the digital transition of the institution.

The direction of the gallery is being propelled into a digitally involved experience while still promoting its in-person events. Those interviewed noted a direct positive influence on the programming involved with online components. Specifically, the two largest categories of positive impact on programming were creating unique curatorial and presentation methods as well as ease of access for communities that regularly would not be in attendance to the physical gallery space.

SUMMARY OF INTERVIEW RESPONSES TO RESEARCH QUESTIONS What form is the digital transition at your institution?

They currently have their collection listed digitally on a platform called eMuseum where viewers can interact with the permanent collection online. They also have a collection of their

previous exhibitions' virtual tours, in the form of narrated videos, available for viewing on their website. This is done through video format walking around the gallery accompanied by a narrator. During the interview, they also mentioned that they are currently exploring different options to provide digital content.

MMoA is looking into 3D imaging technologies and augmented reality to provide a more unique and comprehensive exhibition attendance for online viewers. This would create a full sensory approach to digital attendance, an upgrade from their video-based tours. The combination will enhance digital viewership. This continued promotion of innovation within their online presence is crucial to their development as an institution. They noticed the increased opportunity and reach of visitors with the expansion of their digital presence. Continuing to promote this will lead to increased success as they projected the number of visitors to continue to grow due to the upward trend of digital attendance over the pandemic.

The museum has just recently released a new exhibit titled "What Sustains Us" that employs interactive virtual reality components. The exhibit allows online visitors to navigate the gallery space through designated points of interaction within the overall three-dimensional virtual space. They are hoping to include more virtual experiences like this going forward.

What are the issues, including opportunities and costs – future directions?

The MMoA described unique opportunities in art presentations for specifically digital artists. They noted that working with artists that already operated on digital platforms created superior virtual exhibits as they brought digital skills that were otherwise unavailable to the gallery's staff. The director noted that the transition of traditional art forms like painting and sculpture to virtual exhibition have been met with problems for online presentation. This is due to these traditional mediums being spatially dependent and the context of the gallery setting is

removed over a digital presentation platforms. Whereas the presentation of digital-based practices created new opportunities for the institution, as they could expand past their traditional programming and explore more tech and digital art in a new context.

The gallery worked collaboratively with artists whose practices were based in digital art in order to effectively use digital mediums. They chose to do this because they did not have any employees with expertise in this field and they were unable to hire external resources. Instead they decided to use experts in the field, digital artists, in order to be able to create compelling and interactive digital exhibitions. Going forth the MMoA is considering using 3D imaging technologies and augmented reality to provide more unique and comprehensive exhibition attendance for online viewers. This would create a full sensory approach to digital attendance

The education department representative noted educational opportunities in teaching external communities with online platforms. There were previous issues with accessibility and ease of access to the educational programs offered due to distance and technology. However, now with the implementation of online attendance through programs like Zoom and Microsoft Teams the education department is able to deliver their school programs to a significantly greater audience. With the development of online education programs schools did not have to worry about the financial and safety considerations typically associated with out-of-school travel. They found that the gallery was able to reach larger audiences of school children by offering the presentations that they prepared over a video conferencing service.

How is your institution responding to the needs of accessibility online?

MMoA focused on online presentation as a way to create programs that were more easily accessible for those who may not have been able to travel to the gallery. They remarked that schools that were not previously able to attend the gallery were showing interest in attending

events due to smaller accessibility boundaries and being able to participate through a remote service. This allowed for a larger audience for gallery tours and artists talks for students and community members. They said that due to the online presentation of different annual events and artists' talks that there was a notable increase in interest and attendance. They also expressed concern about how to create content online that is highly accessible to those with sensory motor challenges. They are hoping to improve upon this for their future programming.

Summary

It was repeatedly noted that the museum suffered from issues with staffing and funding. They remarked that due to the small size of their institution they found it difficult to find the necessary funding and human resources to execute their plans. Since the gallery only has eleven employees across all departments, it was difficult to find individuals that were able to take on new responsibilities as most people were already stretched thin across their own roles.

The museum did indicate the crucial role that public funding played in their ability to pursue these transitions and for overall support during the pandemic. The Ontario Arts Council and the Canadian Council for the Arts were two of the larger funding agencies that helped the gallery in this time of transition. They need these funds to elevate their online content past what they are able to do with their relatively small budget.

The gallery noted the benefit of showing artists that already specialized in a digital medium, this could, however, lead to the favoring of digital-based practices for online exhibitions over traditional art forms such as sculpture. They are attempting to address this by including technologies such as augmented reality and virtual reality in order to provide the spatial context of the gallery online. However, they noted that this is still very much a work in progress.

Agnes Etherington Art Centre

Institutional Profile

The Agnes Etherington Art Centre is located in Kingston, Ontario on the Queen's University campus with the mission to serve the community of Kingston. The Agnes is one of the few institutions involved in the interviews that has a designated position for digital development and continuously makes its digital programming a priority for the gallery.

In the year 2019-2020, they experienced a total of 895, 032 visitors through both in-person and online programming. The most popular months were May and October with the two representing 23% of total visitors for the year. There was a great disparity between online and in-person visitors with the online portion being significantly more successful. This would make sense due to the needed shift that year of switching to online programming because of COVID-19. The overwhelming numbers were 864, 043 online visitors to 30, 989 in person.

This could also partly be due to the location of the gallery. Kingston is outside of the metropolitan areas and therefore relies on online programming to bring in new visitors. The online development and presence of the Agnes Etherington Art Centre is a strength in its programming and their reputation for digital presentation attracts visitors. This can be backed up by their reach on Facebook and Twitter being a total of 788, 615 impressions for that year. I was able to interview the Digital Development Coordinator for this study.

SUMMARY OF INTERVIEW RESPONSES TO RESEARCH QUESTIONS What form is the digital transition at your institution?

The Agnes had already committed to creating digital programming prior to the pandemic and this was amplified during the time of lockdowns. They created a custom web platform that allowed for increased interactivity and the attachments of virtual and augmented reality

programs. This allowed them to create 360-degree digital-based experiences that interact with the art and exhibitions they promote. The ability to create such an extensive level of digitally complex programming is due in large part to the hiring of their Digital Development Coordinator. This is a position that was created to facilitate highly interactive and sophisticated digital programming for exhibitions.

The exhibition "Drift: Art and Dark Matter" from February 2021 is an example of one of the interactive digital exhibitions that they created over the course of the pandemic. The exhibit allows the user to navigate through a series of web pages that encourages interaction with the different modules surrounding the art pieces. This included literature, video, slide shows, and documentation of the process to accompany the works. This highly interactive modular display emphasized a full cultural and educational experience surrounding the artwork while engaging with multi-media and multi-sensory displays.

It was also noted that the center provided a significant amount of programming for children and education services in person prior to the pandemic. This was then moved online during school closures as they received a greater demand for digital educational programming from the local school boards. They worked closely with the school systems in the area to provide these opportunities for their students over digital platforms like Zoom.

What are the issues, including opportunities and costs – future directions?

At the start of the process of transitioning all content online, there were issues with media literacy and digital capabilities across the staff as no one was trained in this regard. This acted as the original hindrance to the greater shift online, however, the position of Digital Development Coordinator saw an increase in opportunities for the centre's digital presence. One of the steps that helped this process was that they had already developed a digitization strategy prior to the

pandemic. The gallery had also just updated its website to a state-of-the-art digital venue just as the global pandemic came to light. This was something that the DDC remarked as impeccable timing and luck considering the unforeseen circumstances.

Since they were able to utilize a state-of-the-art website designed specifically for them, they found that there were many opportunities in representing art digitally. They had utilized open source coded programs and internally developed systems that helped amplify interactivity in their exhibition strategies and presentations online. This allowed for successful audience interaction, similar to that of an in-person event. They were also able to expand and provide more information, didactics, and media to go alongside the presentation of the art in a digital space as they had no spatial limitations.

How is your institution responding to the needs of accessibility online?

Now that more programming is being held in person again there are concerns about access to the physical space and how that might not be ideal for those who have physical disabilities. The Agnes is therefore going to continue to offer digital programming and events hosted over Zoom in order to combat this. Another way they are trying to include accessible options for all, specifically the digital events, is to have recordings and transcripts available after the fact. This will allow users to rewatch and review the programming at their own speed and accommodate for sensory and processing disabilities.

Summary

This interview provided an interesting perspective on the topic of digital transition because of the unique digital transition role that the gallery employs. The Agnes benefited greatly from already having a strong base and plan for providing cutting-edge digital presentations and was able to provide highly engaging digital exhibitions. Their uses of new

technologies, modular systems of delivery, and virtual and augmented reality were some of the highlights of their exhibits. They provided resources to increase accessibility and this will continue to remain a priority going forth across all of their exhibitions both digitally and in-person. Once there was the ability to return to the gallery to in-person events the digital presence did become less of a gallery wide focus, but it will remain a strong component of their yearly programming.

Hamilton Artists Inc.

Institutional Profile

The Hamilton Artists Inc. is a publicly funded artist-run center situated in the heart of downtown Hamilton, Ontario. During the programming year of 2019-2020, they held five exhibitions within their main Cannon street and James street galleries, showing the works of over 50 artists (Hamilton Artists Inc., 2020, p.12-13). The gallery utilizes several venues to display its programming from the two gallery locations on James street north and Cannon street, a projection wall, billboard space, and a distinct banner program on James street north (Hamilton Artists Inc., 2020, p.12-14). Alongside this art display programming, they also hold events meant for community enrichment, engagement, education, and more (Hamilton Artists Inc., 2020, p.14).

The Inc. also experienced financial disruptions due to the COVID-19 pandemic (Hamilton Artists Inc., 2020, p. 33). However, they are lucky to report that through additional funding and the success of online/virtual events they were able to raise enough money to meet their yearly targets (Hamilton Artists Inc., 2020, p. 33). Some of the funding sources they received to help do this were the inaugural Lacey Prize from the National Gallery of Canada, additional funding from the Canada Council for the Arts COVID-19 Emergency Support Fund, as well as the Hamilton Community Foundation, and the government's Candian Emergency Wage Subsidy to aid in subsidizing losses from COVID (Hamilton Artists Inc., 2020, p. 33). For this interview I spoke with the director of the gallery.

SUMMARY OF INTERVIEW RESPONSES TO RESEARCH QUESTIONS

What form is the digital transition at your institution?

The Inc. has stated that there is a great interest in continuing to provide online content and programming, however, they are still working out some of the issues they experienced during the initial transition. Originally they had a large issue with being able to accurately and authentically represent mediums of art whose experience is heavily tied to and primarily appreciated through physical space. It was noted that works like sculptures were found to cause the greatest level of difficulty, this can be specifically seen in their "Ignition" exhibition.

The "Ignition" show is held annually for top graduating art students from McMaster University and provides the awarded artists with a professional exhibition at the Inc. main gallery space. There is traditionally a mix of mediums in the show and because of this, hosting the exhibit on a digital platform proved as a barrier to accurately represent spatially dependent art. The main issue with this year's selections is that the artists primarily worked in mediums that require substantial spatial interaction which they deemed was impossible to accurately capture online. The solution they found to this problem was to have the artists prepare the work for their exhibition through digitally accessible mediums. This kind of creativity and flexibility is something that this industry benefits greatly from when overcoming adversity in their programming.

They also hosting many of their live events including artists talks and presentations over digital video conferencing platforms. Alongside this, their other yearly programming was

available in hybrid format which promoted digital displays of art on their website. They noted that a key contributor to the years online programming being made was due to working closely with artists to present digital works and exhibits.

What are the issues, including opportunities and costs – future directions?

The Inc. director noted that while it was a sudden change to transition work and programming online, but they found a great deal of opportunity stemming from the shift. They found that the creativity of their programming team was crucial to the success of the online presentation. Having programming staff that worked with artists to make online friendly accessible works and exhibitions became crucial to their expansion digitally as shown through their adaptation to the platform for the annual "Ignition" show. They also transitioned to a hybrid delivery system to deal with the openings and closures of the physical space due to provincial shifts in lockdown status across the year.

Not having the ability to show art in a physical space was indeed a hindrance to the gallery's ability to display works, but they have found great success in showing certain forms of works that rely less on physical space. They noticed an ability to reach much greater audiences and spread their programming to areas they would have not otherwise been able to. Thus making online art a definitive part of their future programming. As stated earlier they had difficulties with being able to utilize accessibility tools for their web pages but are currently working on progressing this.

They also noted a large source of the problems they had were due to having an out-of-date website. The website was not initially set up or thought to be used as a platform for displaying works and exhibits and because of this was not initially suitable to do so. This led them to not have the tools to be as creative as they would have liked to be in the presentation, but they are looking to create a more modular website that enhances this experience in the future.

How is your institution responding to the needs of accessibility online?

Outside of trying to have artists' works be successfully appreciated over a digital platform, the other major issue the director of the Inc. noted was that of accessibility. Considering how art is mainly sensory activated, the regular channels of creating accessible content on digital platforms such as described video, image descriptors and etc. seem to be lacking in the ability to accurately represent the pieces. It is part of the gallery's mandate to provide accessible art for the community, and because of that, it is vital to their mission to do the same over digital platforms.

The director has noted that this is still a work in progress and potentially one that will never be fully completed as it will most likely always be an issue that they will have to grapple with. He remarked that this was one of the largest issues for overall transition online as he found most industry-standard accessible descriptors incapable of accurately representing full and thoughtful experience for visitors with accessibility needs. Art is incredibly subjective and to have a few sentences describe a piece in its entirety is plainly not effective. There is nuance and emotion in the way that art impacts its viewers and in the ability to be able to translate that into accessible content is proving to be difficult. He did however say that the gallery is currently working with artists who specialize in accessible art forms in order to further their ability to represent art online.

Summary

The Inc. has clear plans to continue to increase its digital capabilities as they note a great deal of potential for reaching new audiences and creating interesting digital programming. This could, however, lead to the majority of the online programming being centered around digital art

as mediums that require spatial context do not translate effectively. This will promote an interesting duality as the overall programming of the gallery returns to in-person events and they will have the capacity to show art in a physical space again. They expect to promote a hybrid delivery system for programming going forth which will include opportunities in both the digital and physical gallery space.

They have made it clear that the work surrounding accessibility in the digital presentation of art has a long way to go. This will be one of the priorities for the gallery going forth and they will continue to seek creative solutions that go beyond the standard accessibility technologies available for digital presentation by working with artists who specialize in accessibility.

Power Plant Gallery

Institutional Profile

Power Plant is a contemporary art gallery situated in downtown Toronto, Ontario that specializes in exhibiting living artists and is a non-collecting cultural institution. During the years 2019-2020, they presented nine exhibitions with 10 collaborating artists as well as four traveling exhibitions that visited the gallery (Power Plant Gallery, 2020, p. 4). They saw a total of 265, 815 visitors to their exhibits, 6, 221 participants in education programs, and a total of 63, 324 followers across Twitter, Facebook, and Instagram (Power Plant Gallery, 2020, p. 4-5).

With regards to financial support, the gallery reports receiving \$1, 515, 372 in federal, provincial, and local grants (Power Plant Gallery, 2020, p. 5). In addition to this, they received \$1, 388, 594 in private gifts (presumed to mean donations) and \$392, 176 in-kind support (it is unclear as to what this means) (Power Plant Gallery, 2020, p. 5). They do write in fine print at the end of this section that the financial and visitor numbers were impacted due to early closure from the COVID-19 pandemic (Power Plant Gallery, 2020, p. 5). More specifically, this section

states that the numbers for visitors are based on the period of the 22nd of June 2019 to the 31st of March 2020 and the financial statistics are from the period of the 1st of April 2019 to the 31st of March 2020 (Power Plant Gallery, 2020, p. 5). The statistics provided in the annual report show the disruption that the pandemic had on their ability to service visitors through in-person programming and insinuate a loss to these numbers due to this.

The Power Plant Gallery representative that I spoke to worked in the communications department.

SUMMARY OF INTERVIEW RESPONSES TO RESEARCH QUESTIONS What form is the digital transition at your institution?

The Power Plant Gallery is planning on moving a large amount of the programming to in-person events now that COVID restrictions have been lifted on cultural institutions. They are however going to be using digital platforms to present artists that are not necessarily able to travel or other international speakers. The digital realm of the gallery will not disappear however it does not seem to be the priority of the gallery going forth and will mostly remain on social media and accommodating for international speakers/events. They are also currently working on creating a more up-to-date website, as their current website was created 11 years ago in 2011. The updated web interface will provide greater opportunities for engagement going forth. Their website does however provide a 3D walkthrough of their major seasonal exhibitions available on their website. There was the initial creation of virtual exhibition tours in 2016 that continue to this day and there was a thorough use of video conferencing to replace in person events.

What are the issues, including opportunities and costs – future directions

It was noted that it was a difficult shift to provide digital resources for visitors initially, however they were able to increase accessibility across financial and spatially restricted

communities. After the adoption of several new programs like Zoom and Microsoft Teams, they noticed an increased opportunity in providing experiences for age ranges that they previously had not reached. This provided the gallery with new opportunities and a higher potential for cultivating attendance/viewers. They also remarked an increase in viewership across their social media platforms during this time. The pandemic was a difficult transition period initially, but it became an opportunity for the gallery.

They mostly shifted their artist's talks and fundraising events to digital video conferencing and streaming platforms. This way they were able to continue to offer these programming opportunities to the public and continue to try and fundraise. However, these events have now started to shift back to in-person and are likely to stay that way.

How is your institution responding to the needs of accessibility online?

The gallery noticed an ability to reach a large number of individuals that they previously found inaccessible due to potential travel and physical boundaries. The use of programs like Zoom for broadcasting artists' talks and gallery events allowed for the gallery to reach new demographics. They mentioned this as a huge benefit as they were able to start to recruit potential future donors in young participants as well as reach those who are more likely to donate in the older adults. They remarked that the digital programming was used to their benefit as they needed to focus on recruitment to ensure donations as they require those to stay afloat due to the nature of the gallery.

Summary

The gallery already provided an option for digital visitation to the main exhibits of each season (fall, winter, and summer) through a virtual 3D modeled tour of the gallery space. This allowed users to move through the space in a virtual reality setting. They have been doing this

since 2016 and will continue to do so in the future. Outside of this, they are moving away from digital presentation now that they have the ability to host events in person again. They plan to mostly utilize digital attendance for artist talks and meetings with the public for international artists who are incapable of traveling due to financial restrictions or physical boundaries. They remarked that spatial and travel accessibility was improved for visitors because of their increase in online content.

Art Gallery of Hamilton

Institutional Profile

The Art Gallery of Hamilton is situated in the downtown core of Hamilton, Ontario, and is the largest art gallery/cultural institution available to the public in southern Ontario. They boast a large collection and prominent status within the local and provincial arts community. The gallery hosted 22 exhibitions in the 2019-2020 season with a total of 331 artists featured (Art Gallery of Hamilton, 2020, p. 20). During this time they had 252, 359 visitors with over 190 public programs and more than 20 public talks and panels (Art Gallery of Hamilton, 2020, p. 20).

Within that year they required an operating budget of \$6,160,887 with the largest expense being staff salaries accounting for 41% of their total expenses (Art Gallery of Hamilton, 2020, p. 21). In response to this, they earned a revenue of \$5,927,195 the largest portion of their income coming from grants, events, and fundraising culminating in a total of 48% of their yearly revenue (Art Gallery of Hamilton, 2020, p. 21). The gallery representative I was able to speak with was the executive director/CEO of the gallery.

SUMMARY OF INTERVIEW RESPONSES TO RESEARCH QUESTIONS What form is the digital transition at your institution?

The Art Gallery of Hamilton (the AGH) noted that the initial reaction to COVID-19 as an organization was that of shock and unpreparedness, but ended up being the push they needed to shift online. The gallery had already been preparing a strategy and longer-term plan to create online programming and resources for their visitors before there was a pandemic but had yet to implement it. This allowed for them to have an initially strong reaction, while limited at the start due to resources, they nevertheless had successful initial programming.

Their annual art sale was set to take place a month into the pandemic and when news broke that there were lockdowns they were able to swiftly and effectively transition their art sale onto their website. While it was a relatively simple presentation and basic e-commerce profile they had greater success through sales generated than they had in the past few years. This was partly attributed to the artists working alongside the gallery harmoniously in its preparation for building out the online version of sales. The artists provided all of their materials through pictures of the work in detail and descriptions for the marketing team at the gallery to prepare for the sale.

The director attributed part of this success to circumstances as it is assumed that there were more sales due to everyone being locked down in their homes and because of this they wanted to provide more decoration to their space. They also noted that since it was online they were able to reach a far greater audience interested in purchasing artworks than if it was to be confined to their physical space as it was before. Since the success of the art sales and the positive response from the public, they realized that there was potential for growth in moving more programming online.

The gallery is planning to continue to improve and grow its online presence and build upon programs like "Breaking the vault", "Fridays at Four", and "Sketchbook Summer" their

video series that found success during their closures. The commitment to digitally opening the gallery's walls beyond the physical space saw creative opportunities for the presentation of exhibits, programs and the gallery as a whole. The example of their "Fridays at Four" series perfectly illustrated their creative growth and further presentation opportunities.

After a few months of brainstorming how to expand past what they viewed as traditional online presentations and virtual tours, they came up with the series "Fridays at Four". This took docents through the vault and created long-form discussions about weekly themes and specific artworks. This was a free-to-attend virtual tour that took place live through their website every Friday at four pm. This was noted to be a huge success for the gallery both statistically and creatively. The director noted the fact that there were over 12, 000 works of art that were locked in the vault without a capacity to display them all, this series was able to showcase works that have not been exhibited for years if not decades. A program that would be unlikely to work if it relied on physical space and attendance for its presentation.

What are the issues, including opportunities and costs - future directions?

The director noted that it was initially a difficult transition when the lockdowns were announced and longer-term COVID restrictions came to light. She noted that unlike other organizations/sectors there was no previous planning for something like a pandemic that would shut down operations, especially considering the majority of the gallery relied so heavily on in-person events.

One of the first major issues for the gallery's staff that needed to be resolved was that of working from home. There was no infrastructure or funding to create equal workspaces for employees in the gallery's emergency planning or budget. This required a search for external funding to ensure that all employees were able to have adequate equipment in order to continue being a part of the day-to-day work at the gallery. The work-from-home mandates also created issues with work as the projects the gallery puts on are collaborative and not being able to work closely created a less effective workflow.

However, as the pandemic continued the gallery continued to find new alternatives to programming and created opportunities that extended their initial planning into a stronger online presence. With the acquisition of more funding from granting offices they were able to hire a new position that focused specifically on creating content for their digital platforms including videos, creative solutions, marketing, and interactive content. Interestingly the individual that was hired is a video artist who had previously done work with the gallery. This is similar to the trend of approaching artists to create alongside the gallery to help in this transition that was seen in previous interviews.

This hiring created a new avenue of content ability for the institution as it provided resources that were previously inaccessible to them. After this hire, they could then receive more funding to purchase the necessary equipment to create high-quality productions. This is where it was remarked that the process really took shape and there started to be a jump in engagement with their new content. The director of the AGH stated that digitizing the permanent collection is firmly a goal for their future and that "Fridays at Four" was a good first step to exposing the hidden works of the gallery.

How is your institution responding to the needs of accessibility online?

Accessibility is always a concern for the AGH as they focus on trying to provide accessible art and programming for all. It was noted that the gallery received funding to provide accessibility options for their digital programming like speech-to-text and described video. Outside of these accessibility options provided over their digital platforms, they noted that there is more work to be done in order to make web programming more accessible for those with disabilities. There was, however, improved spatial accessibility as they were able to reach communities that may not have been able to attend the gallery due to financial, mobility, or travel restraints.

Summary

The transition of content online is a priority for the Art Gallery of Hamilton and with the success of their programming during the pandemic, they are looking for more opportunities to expand digitally going forth. They found that working closely with artists and opening content beyond what was already on the walls of exhibits to be the keys to their success. Funding from the government and arts organizations was crucial to this process, without receiving additional funding they noted they would not have been able to do what they did. They also noted an increase in accessibility in the areas of financial, mobility, and travel restraints because of their digital events.

Art Gallery of Ontario

Unfortunately, the AGO was unable to provide an interview for this study and no case study was able to be made on their digital transition.

Discussion

The interviews helped me to develop a description of the response to the galleries in southern Ontario experienced during the pandemic. This is a small sample size of the cultural institutions in the province and further research would be required if these case studies were to be representative of a wider selection of galleries. The galleries in the study represented three tiers of institutions: small university galleries, artist-run centers and medium-sized galleries, and large-scale publicly funded galleries. Overarching themes appeared across all the galleries with the majority showing similar opportunities brought about by the pandemic, however unintended, and the issues surrounding the use of technologies, programming opportunities, and accessibility concerns. The overarching themes included challenges with lack of resources, accessibility on digital platforms, and being able to adapt the digital exhibition formats to the various artistic mediums.

Themes across institutions

There was an interest in upgrading the digital presence of each gallery in an effort to increase reach. This would allow greater exposure to their programming and would result in a greater ability to fundraise. While they were all interested in increasing their digital presence, some had specific plans to continue video and virtual programming while others wanted to simply host online events. Some of the potential moves forward included digitizing permanent collections and improving interaction with previously inaccessible works, as well as continuing to provide remotely accessible programs.

The two biggest barriers hindering a larger-scale move online were a lack of adequate funding and a shortage of staffing. This made it challenging for all of the galleries to do more in terms of creating online programming and expanding the potential for the digital presentation of art. Without the appropriate resources and training, it is unrealistic to expect a gallery, especially smaller institutions, to be able to create large productions on top of their already full yearly programming schedules.

Accessibility themes

The challenge of creating effective and accessible presentations was also noted across all galleries. Every institution interviewed found it difficult to_transfer artworks onto a digital platform and be able to adequately represent the true nature and power of the works. All gallery

representatives remarked that there was a copious amount of work that needed to be done to make the online presentations more accessible for those with sensory disabilities. However, even with this noted deficiency online programming allowed them to reach a significantly greater audience.

Three out of five interviewees commented that despite the advantages of accessibility technologies they cannot accurately represent emotion associated with art. While it is helpful to have speech-to-text, describe videos, or even have audio tours available, the ability to create art whose polyvalent meanings are accessible and to be able to translate these emotional essences is still yet to be done effectively. While an institution like the Inc. has made it clear that they are working with artists who specialize in accessible art to develop the ability to truly represent the essence of great work, the ability to do so is eluding cultural institutions.

There is progress being made and digital technologies like augmented and virtual reality seem to be promising, but there is still the issue of funding. All of the institutions pointed out that funding is the greatest hindrance to creating the programming that they truly want to and access expensive technologies.

Institution size-specific themes

It was clear that the smaller institutions did not have the same resources as the larger CIs in this study. While some galleries like the MMoA and the Agnes benefited from granting and in-house creativity, places like the AGH were capable of securing larger funding. This meant that the smaller institutions had to become creative with the ways that they worked around the issues in the creation of digital content. One creative opportunity noted was that the smaller scale institutions relied heavily on the skillsets of the artists they were presenting whereas others with greater funding were able to hire specialized workers. The working potentials of the AGH far exceeds that of the MMoA as they have over five times the amount of people working internally and a larger operating budget, providing them with a greater wealth of resources. This is part of the reason why they would have been able to successfully receive larger amounts of funding and in turn, be able to afford the specialist worker and equipment required to create content internally. Logically, there was a trend that as the institutions grew in size so did their resources.

Future directions

All institutions see a clear benefit to providing digital content, however, it seems that in-person events are still the priority for the majority of the cultural institutions interviewed. Regardless of this, all institutions in the study are still enthusiastic about continuing to provide digital content and are looking forward to improving upon their current digital presence. The Inc., AGH, MMoA, and the Agnes all clearly see the potential of the digital space as a medium for presentation and education beyond what they are currently providing. Their main interests are in improving the interactivity and accessibility of programming available on digital platforms.

Knowledge Dissemination and Future Research Activities

I plan on sharing the results of my case study with the participants of the study as well as making it available to other non-participating institutions upon request. I will also continue to study the ways in which technology is utilized in cultural institutions to try and expand upon this original data.

Conclusion

It is clear that technology has become a crucial part of the way that cultural institutions are presenting programming. The pandemic only amplified the need and opportunities of what a successful interactive digital space can create for the audience/viewership of art galleries. There are many new technologies that cultural institutions are experimenting with and as time goes on there is likely to be even more. With the expanse of new opportunities in augmented and virtual reality, there are likely to be more comprehensive and multi-sensory digital experiences that capsulate the true entity of art in a digital space. The digital revolution that appeared as a result

of forced closures is clearly the pathway for cultural institutions to expand beyond their communities and create on new levels without the hindrance of physical space.

With the ability to receive greater reach cultural institutions will be able to show their exhibitions to a much wider audience than ever before. This does, however, create a need for greater accessibility of content. The general idea of accessibility in cultural institutions needs to expand past what has worked in the physical space and move into the new age of technology and art. It will be crucial for cultural institutions and artists to work together in order to create systems of presentation that are capable of providing exhibits that flourish in a digital environment.

References

- Art Gallery of Hamilton. (2020). 2019 Annual Report. Art Gallery of Hamilton. Retrieved May 21, 2022, from https://www.artgalleryofhamilton.com/wp-content/uploads/2021/06/2019-Annual-Report-FINAL-compressed.pdf
- Art Gallery of Hamilton. (2021). *Annual Report 2021*. Art Gallery of Hamilton. Retrieved May 21, 2022, from https://www.artgalleryofhamilton.com/wp-content/uploads/2021/10/Annual-Report_2020 .pdf
- Baxter, P., Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*. 13.4. 2008. pp. 544-559. Web.
- Brilmyer, G. (2020). Towards Sickness: Developing a Critical Disability Archival Methodology. *Journal of Feminist Scholarship* 17 (Fall): 26-45. 10.23860/jfs.2020.17.03.
- Bogdanova, G., Sabev, N., Tomov, Z., & Ekmekci, M. (2021, October). Physical and Digital
 Accessibility in Museums in the New Reality. In 2021 5th International Symposium on
 Multidisciplinary Studies and Innovative Technologies (ISMSIT) (pp. 404-408). IEEE.
- Hui Kyong Chun, W. (2015). Networks NOW: Belated Too Early. *Amerikastudien / American Studies*, 60(1), 37–58. http://www.jstor.org/stable/44071894Modlinski, Artur, and Luis Moreira Pinto. "Managing Substitutive and Complementary Technologies in Cultural

Institutions." Management, vol. 25, 2020, pp. 1–10.,

https://doi.org/10.30924/mjcmi.25.s.2. Accessed 13 Feb. 2022.

- Duffy, B. E., Nieborg, D. B. & Poell, T. (2020). Studying Platforms and Cultural Production: Methods, Institutions, and Practices. Social Media + Society. <u>https://doi.org/10.1177/2056305120943273</u>
- The Hamilton Artists Inc. (2020). Hamilton Artists inc. Annual Report 2019-2020. Retrieved May 21, 2022, from http://www.theinc.ca/wp-content/uploads/2020/12/HamiltonArtistsInc_AnnualReport_20 20.pdf
- Jeurgens, C., Karabinos, M. (2020). Paradoxes of curating colonial memory. *Arch Sci*, vol. 20, 2020, pp. 199–220. <u>https://doi.org/10.1007/s10502-020-09334-z</u>
- Kleege, G. (2018). More than meets the eye: What blindness brings to art. Oxford University Press.
- Luque Colmenero, M. O., & Soler Gallego, S. (2021). Evaluation and collaboration in creating online audio descriptions of visual art. *British Journal of Visual Impairment*, 02646196211055921.

Manzûch, Z. (2017). Ethical Issues In Digitization Of Cultural Heritage. *Journal of Contemporary Archival Studies*, vol. 4, 2017, pp. 1–17., https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1036&context=jcas.
Accessed 16 Feb. 2021.

- The McMaster Museum of Art. (2020). The McMaster Museum of Art Annual Report 2019-2020. Hamilton, Ontario; *The McMaster Museum of Art*.
- The McMaster Museum of Art. (2021). The McMaster Museum of Art Annual Report 2020-2021. Hamilton, Ontario; *The McMaster Museum of Art*.
- Meyer, S., Larrivee, L., Veneziano-Korzec, A., & Stacy, K. (2017). Improving Art Museum Accessibility for Adults With Acquired Hearing Loss. *American Journal of Audiology*, 26(1), 10–17. https://doi.org/10.1044/2016_aja-15-0084
- Modlinski, A. & Pinto, L. (2020). Managing Substitutive and Complementary Technologies in Cultural Institutions. *Management*, vol. 25, 2020, pp. 1–10., https://doi.org/10.30924/mjcmi.25.s.2. Accessed 13 Feb. 2022.
- Palumbo, R. (2021). Enhancing Museums' Attractiveness through Digitization: An Investigation of Italian Medium and Large Sized Museums and Cultural Institutions. *International Journal of Tourism Research*, 2021, pp. 1–14., https://doi.org/10.1002/jtr.2494. Accessed 15 Feb. 2022.
- The Power Plant Gallery. (2021). The Power Plant 2020-2021 Annual Report. *The Power Plant -The Power Plant Contemporary Art Gallery* – Harbourfront Centre. Retrieved May 21, 2022, from https://thepowerplant.org/
- The Power Plant Gallery. (2020). The Power Plant 2019-2020 Annual Report. *The Power Plant The Power Plant Contemporary Art Gallery* Harbourfront Centre. Retrieved May 21, 2022, from https://thepowerplant.org/

- Stake, R. E. (2005). Qualitative Case Studies. The Sage Handbook of Qualitative Research: Third Edition. Ed. Norman, K. Denzin, and Yvonna S. Lincoln. London. Sage Publications Inc. 2005. Print.
- Taylor, C., & Perego, E. (2020). New approaches to accessibility and audio description in museum environments. In *Innovation in audio description research* (pp. 33-54).Routledge.
- Thebaut, N. (2007). Improving accessibility to art museums. Policy Studies Journal, 35(3), 562+. <u>https://link.gale.com/apps/doc/A171253601/AONE?u=anon~a192d939&sid=googleScho</u> <u>lar&xid=6c06d2f0</u>
- Vom Lehn, Dirk, and Christian Heath. "Accounting for new technology in museum exhibitions." International Journal of Arts Management (2005): 11-21.
- vom Lehn, D., Heath, C., & Hindmarsh, J. (2005). Examining exhibits: Interaction in museums and galleries. Communication and Cognition Monographies, 38(3-4), 229-247.
- Yazan, B. (2015). Three Approaches to Case Study Methods in Education: Yin, Merriam, and Stake. The Qualitative Report, 20(2), 134-152. Retrieved from http://nsuworks.nova.edu/tqr/vol20/iss2/12