Arts in a Digital World 2020

Refresh of Jurisdictional Digital Strategies, Policies, and Initiatives

Final Report

January 2021

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Executive Summary

About the Research

In 2015, Canada Council for the Arts commissioned Nordicity to produce *The Arts in a Digital World* report, which delivered research to support the digital transformation of the arts sector. This report and its parallel survey findings provided a snapshot and analysis of the digital technologies that were impacting the arts ecosystem at the time.

In 2020, Canada Council for the Arts engaged Nordicity to provide an update to its 2016 *Arts in a Digital World* report. Its purpose is to review the digital landscape in the international arts sector over the past five years. This report reviews policies and initiatives put in place around the world that address the adoption of digital technologies by arts and culture organizations, highlights innovative uses of new technologies and identifies the strengths, challenges, gaps and needs for the arts community in the current digital world.

This report comprises three sections, including (i) an overview of the current state of digital transformation in the arts sector, (ii) a review of digital strategies implemented in different jurisdictions, (iii) a review of digital programs and initiatives impacting the international arts value chain. In this Executive Summary, Nordicity presents key findings in four sections that emerged from the research:

1. The impacts new digital technologies are having on the arts sector, from spurring innovation in artistic creation processes to modifying business practices.

2. The current status of digital transformation in the Canadian arts sector.

3. Policy initiatives and strategies from international jurisdictions supporting digital transformation in the arts.

4. Major changes, trends, and policy gaps related to digital transformation that have emerged over the past five years.

Key Findings

This section summarizes key findings that emerged from the research report as relevant to the current situation with respect to the digital transformation of the arts in Canada and other jurisdictions.

The Impacts New Digital Technologies are Having on the Arts Sector

New digital technologies are impacting the entire value chain within the arts sector: from artistic production and distribution to audience behaviour and organizational infrastructure. There is an increasing number of examples of digital solutions being adopted by the arts sector, many of which are profiled below.

Technologies that are relevant to Arts Creation, Presentation and Exhibition

- Virtual Reality (VR), Augmented Reality (AR), 3D visualization, 360-degree capture and other technologies are increasingly being used for experimentation in the exhibition of art (at museums, galleries, and artist-run centres) and live-performance production. However, there is no easy way to determine what kind of return they can expect in the future – at least not until there is widespread consumer adoption of display equipment.

Technologies that are relevant to Art Distribution and Consumer Behaviour

- Many production and distribution technologies emerging from the audio-visual field, such as streaming platforms, motion-capture devices, and HD cameras, are evolving. The arts ecosystem is a beneficiary as cost and quality barriers are dropping to enable these technologies to become more accessible. It is becoming easier for arts organizations to utilize these tools to go online more extensively – a virtual necessity during the COVID-19 pandemic.

- With the increased usage of smart phones and a proliferation of mobile apps by the general public, audiences are engaging with content and content providers in new ways. Arts and culture content developers have to adapt to the great online demand during COVID-19. Social media and success in search engine recognition are playing a big part in the discoverability of arts content. Formerly a means to drive ticket sales for live experiences, online content is even more important now for establishing and retaining connections with patrons. Younger audiences are using digital platforms and technologies to experience art in different ways: to easily access historical research and other detailed information, to revisit experiences later, and gain a deeper, more personalized connection to the content.

Technologies that are relevant to finding an audience – or audiences finding them – and engaging with them more deeply

- Arts organizations have access to advanced audience data analytics platforms to enable more informed decisions on marketing and sales - including ticket pricing, audience segmentation, fundraising approaches and more.

- The impact of data collection and analysis is being explored across the arts sector. Shared audience data warehouse approaches are increasingly being tested out and implemented by arts organizations around the world, often with the support of the government or the private sector.

- The increased digitization of artistic content provides image and text-based data that can be published on an arts organization's website – but it should be created as structured meta-data to be recognized and understood by machine learning software of search engines like Google. Artificial Intelligence (AI) tools now play a greater role in the development of platform software that can greatly improve search and recommendation algorithms – thus playing a crucial role in influencing the discoverability of arts content.

- Through constant review and revision – called search engine optimization (SEO), arts organizations can develop semantic web structures that enable web platforms to be machine-readable and thus indexed more prominently by the algorithms of major search engines. These structures also enable the creation of contextual information (a "knowledge graph") that makes the information it contains structured in a logical, comprehensible, and more transparent fashion.

- Blockchain systems are seeing increasing applications in music and visual arts to manage rights and assets and to ensure creators retain credit for their works. The ultimate result will be to lessen the negative impact of fraudulent appropriation of works by emerging and established artists.

Samples of Digital Strategy Fund supported Initiatives that are exploring the above technologies:

- **Digital Reach** initiative led by the National Ballet of Canada: the project examines how the arts and culture sector can use screen technologies to reach audiences. Various types of streaming technologies and digital platforms for content distribution and storage innovation

were explored. A detailed content capture design guide was also released to address the challenges that most organizations are not equipped with the infrastructure or expertise required to move to a digital platform.

- **Digital Stage** led by the Canadian Opera Company and involving Screen Industries Research and Training Centre (SIRT) at Sheridan College is exploring and testing new digital technology's application in the performing arts. Some of the technologies trialled include AR, Motion Tracking, Holograms, etc.

- **Canadian Arts Presenting Association (CAPACOA)** led a national project exploring the topic of linked web data and metadata in the performing arts. The aim of this initiative was to improve the discoverability of Canadian performing arts organizations at a national level by making use of a combination of the discoverability approaches mentioned above.

- **Audience Analytics Collective (AAC),** led by TO Live, is an audience data sharing initiative comprised of 17 arts organizations that is entering its pilot phase. AAC aims to trial the development and use of an anonymized audience data warehouse.

- **Digital Arts Nation**, led by Atlantic Presenters Association, is a national digital literacy initiative. The initiative supports the performing arts, visual arts and other artistic and cultural sectors by offering workshops that are designed to demystify the digital realm and equip them with the knowledge to upgrade their digital presence and business models. For example, this initiative has hosted webinars on topics related to using digital tools to their best effect, including semantic web / structured data, linked data, etc.

The Current Status of Digital Transformation in the Canadian Arts Sector

At the federal level, digital adoption is viewed as a way to provide solutions to improve overall business practices. Many government departments and Crown corporations are encouraging the adoption of digital technologies as a way to expand access to arts and culture in various ways.

- Canada's provinces and territories are at different stages in their digital transformation, with clusters of growth seemingly organized by physical proximity. **Quebec** is Canada's clear leader in the digital arts realm, with digital-use policies and plans outlined at both government and institutional levels that encourage the growth of the sector.

- The **western provinces** and **Ontario** emphasize the role of digital technologies for economic development and articulate the value within the creative industries in relation to film and Interactive Digital Media (IDM) products.

- Canada's **Atlantic provinces** have placed less emphasis on their digital transformation, with notable movements being pushed forward by individual organizations and/or associations rather than influenced by government strategies or policies.

- **Canada's territories** continue to face connectivity issues - as do many rural parts of the provinces - the improvement of which remains the focus of their digital strategies and initiatives. In the wake of the COVID-19 pandemic, digital's importance has been thrust into the mainstream, encouraging more rapid adoption of digital solutions within arts organizations that can no longer engage with audiences in traditional, physical ways. The pandemic situation has encouraged a renewed focus on improving connectivity issues in Canada's northern, remote, and rural regions.

Almost all provinces have established industry associations that tend to support digital transformation within the wider provincial economy, without a particular focus on arts and culture. Associations such as Digital Alberta, Digital Nova Scotia, and SaskInteractive provide networking,

training, and advocacy on IT topics such as coding, web design and software development. Increasingly, these associations are recognizing the role of digital technologies within a range of sectors. They have been conducting research to support digital skill development among workers in the tourism, arts and culture, agriculture, and the creative industries more broadly. Though the resources provided are helpful to address the digital literacy of each respective association's provincial workforce at a high level, the resources offered at any given time may or may not specifically meet the needs of arts professionals.

Full Digital Transformation in the Arts: Quebec

The **Government of Quebec** has been active in advancing the digital transformation of the arts sector since its ambitious 2014 Digital Cultural Plan, which recent provincial cultural policy suggests will be extended until 2023. The Digital Cultural Plan commits to invest $110 million over seven years on digital technologies, focusing on two themes:

- Support and Adoption: support and partner with the cultural sector in the acquisition, mastering and dissemination of new skills for the digital world.

- Visibility and Influence of Cultural Content: foster discoverability and dissemination of cultural works in the digital environment.

To achieve these two core themes in the Digital Cultural Plan, the Government of Quebec has led more than 120 initiatives focusing on the following areas: innovation and collaboration with the private and academic sectors; update equipment, infrastructure, and networks; dissemination of Quebec works abroad and collaboration with international partners; youth outreach and creation of creative educational content; preservation of Quebec heritage and digital archiving, and; redesign funding programs, action plans and policies according to the digital context.

More than 30 digital initiatives have been permanently implemented to date, including the Montreal Museum of Fine Arts' Le Lab MBAM (a digital exploration incubator), the development of Synapse C (a data analysis resource in the culture sector), and Le Réseau ADN (a digital development network consisting of 42 specialized officers across the province).

Quebec's Cultural Action Plan for 2018-2023 reinforces the Digital Cultural Plan as it adds a digital dimension to almost all its strategic directions and objectives. The plan details 41 actionable measures spread over 23 objectives. Moreover, the plan identifies lead organizations and partner stakeholders for every measure to ensure relevant stakeholders are engaged and contributing to the province's strategic aims. Through their research, policies, and strategic initiatives, Quebec's commitment to full digital transformation in their provincial arts and culture sector is evident.

Strategic Digital Adoption in the Cultural and Creative Industries: Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia

Western Canada and Ontario tend to view the potential of new digital technologies through an economic lens, as having the potential to generate financial returns to the provincial economy through the products of the creative industries. As such, support for digital transformation tends to materialize through support programs and policies aimed at developing the film, media, and Interactive Digital Media (IDM) sectors, with some exceptions.

- The **British Columbia Arts Council**'s *Strategic Plan 2018-2022* showed a commitment to using new digital technologies to improve organizational efficiency and upskill the cultural workforce. These commitments took into consideration new digital technologies' impact on sustainability and efficient future creative development through the lens of infrastructure. A prominent digital support program Creative BC offers is the Interactive Fund. Made available

through a partnership between Creative BC and the BC Arts Council, the Interactive Fund supports the development of IDM content and software applications that will be owned and controlled by BC-based companies and individuals. The aim of this fund is to position BC companies and individuals in new economic markets.

- **Alberta Foundation for the Arts'** *2019-22 Strategic Plan* recognizes the use of digital communications to connect arts stakeholders and promote the enjoyment of provincial arts content but does not make any specific commitments to support the expansion of digital technologies within the arts sector. From a provincial level**,** Alberta offers capital injections and tax incentives to grow the digital media sector. Frameworks and policies at the city level (e.g., Calgary Arts Development's *2019 – 2022 Strategic Framework*) bring together the arts and creative industries to harness the value of digital technology.

- The **Saskatchewan Arts Board** had partnered with the Canada Council for the Arts to offer "Digital Strategy Days" in 2018, a two-day conference to learn about how digital tools and strategies can help arts organizations connect with their audiences in new ways. SaskCulture's Museum Grant Program includes virtual museums as eligible applicants, recognizing the public access and long-term preservation capabilities that can be provided through digital mediums. Saskatchewan's report *Moving from Reflection to Action towards a Culture Policy for Saskatchewan 2010*, provided direction toward the use of technology in the community, although its main recent initiatives have revolved around Information Technology (IT) and IDM.

- A review of **Manitoba's** provincial policy documents, strategies and sector support organizations shows that Manitoba regularly considers the role of digital technologies on a strategic level. The Manitoba Department of Sport, Culture and Heritage published a discussion paper entitled *Trends, Issues and the Current State of Government Support for Culture and Creative Industries in Manitoba*, which informed the development of Manitoba's cultural policy. Increasing digitization of all art-making activities and expanding their impact on the creative economy are heavily emphasized. The Manitoba Arts Council contends that it implements a digital component in every operational priority according to its most recent strategic plan.

- The **Government of Ontario** published its first culture strategy in 2016, which identified new digital technologies as one of the prominent influences in the culture sector. This reference relates to commitments planned for IDM companies, and there is no apparent digital focus for the arts sector. Most of the support for digital development in Ontario, therefore, comes from the industrial development agency in the creative sector, namely Ontario Creates.

Digital Exploration: Canada's Atlantic Provinces

Overall, New Brunswick, Nova Scotia, Newfoundland & Labrador, and Prince Edward Island are very much in the exploration phase of their digital arts transformation journey. At this stage, digital movements appear to be stimulated by individual artists and arts organizations as opposed to being stimulated by provincial government policies.

- **New Brunswick** is somewhat of a digital arts leader in Canada's Atlantic provinces in terms of government recognition. Digital technologies are recognized as a driver for the development and delivery of arts and culture content and services in New Brunswick's *Creative Futures* cultural policy document. Digital commitments were notably made throughout most of their strategic objectives.

- The Government of **Nova Scotia**'s *Culture Action Plan* cites the lack of access to technology and lack of support for digital infrastructure as inhibiting factors to digital uptake but makes

no commitments to address the situation. Digital Nova Scotia is the province's Information and Communications Technology (ICT) and Digital Technologies sector industry association that appears to push digital literacy and education in the province forward, though their resources are not specifically geared to the specific needs of the cultural workforce.

- **Newfoundland and Labrador**'s *Cultural Action Plan* makes no commitments or references to adopting and making use of digital technologies in their regional arts sector. Despite the provincial government's lack of strategic planning on this topic, Newfoundland and Labrador has hosted The Unscripted Twillingate Digital Arts Festival since 2015, where new technologies and their corresponding innovative art forms are explored annually.

- **Prince Edward Island**'s relevant policy documents mention digital technologies and place artists within the creative industries. Their policy is based on the understanding that the products of both artists and creative entrepreneurs come about through artistic processes and creative pursuits. Digital transformation is pushed forward through the work and support of Creative PEI, catering to the needs of both the creative and cultural sectors as aligned with the province's objectives.

Digital Infrastructure and Digital Literacy Skills Needed: Canada's Territories

In Canada's territories, good quality and high-speed Internet access remains a big obstacle in remote regions. The territories' lack of connectivity hampers the use of new digital technologies in these regional arts and culture sectors. The cultural workforce also needs more support in accessing digital training. Lack of access to physical infrastructure and tech devices pose another barrier in these region's digital transformation.[1] However, some initiatives are now being implemented to improve the cultural workforce's understanding of digital infrastructure and strengthen their digital literacy skills.

- In **Yukon**, the territorial government's *What We Heard: Creative and Cultural Industries Strategy* reflects the demand for digital transformation in four aspects: reliable and affordable connectivity, accessible funding information in digital formats; online appearance for Yukon products and experiences; a centralized database for sharing resources such as equipment, licenses, and software; the need for collections and programs to recognize and accommodate digital media as art forms. The Yukon government's support for digital transformation in the arts sector is reflected in a few programs, which have become especially critical during the COVID-19 pandemic. The Touring Artist Fund supports both physical touring within Yukon and online (digital) tours. The Cultural Industries Training Fund (CITF) offered by the territorial government gives preference to training that gives people the opportunity to present works digitally, encouraging the development of digital training for jobs that help artistic works reach the public.

- In the **Northwest Territories (NWT)**, the territorial government's *Arts Strategy Engagement: What We Heard Report* alongside their *2020-2030 NWT Arts Strategy and Action Plan* touched upon demand for digital arts education content and access. The NWT Arts Program, founded by the Department of Industry, Tourism and Investment of the NWT government, provides opportunities for artists to participate in the digital economy. The NWT Arts Program provides support to meet the needs of artists in a few ways, including a digital archive, an

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[1] Government of Canada, *Canada's Long-Term Infrastructure Plan*, Retrieved from: https://www.infrastructure.gc.ca/site/alt-format/pdf/plan/icp-pic/IC-InvestingInCanadaPlan-ENG.pdf

arts marketing inventory, and the Content Collection Project. The latter assembles digital images, videos, and interviews from registered artists in the program.

- The **Government of Nunavut** and Canada Council for the Arts commissioned the research paper *Arts Administration Skills and Resources in Nunavut's Arts and Culture Sector* in 2014. The resulting report highlighted the impact of digital technologies on Nunavut's cultural value chain. For example, the research found that there had been an increase in online sales within the territory's visual arts sector, ultimately introducing new direct sales opportunities for Nunavut artists. The report also noted that arts administrators in the region were facing skills gaps related to online marketing, sales, and cross-platform digital content management practices. In 2020, these gaps were being addressed by non-profit organizations in the region, who have developed programs that actively improve the digital literacy of Nunavut's arts and culture sector. Qaqqiavvut Is one organization in Nunavut that has established initiatives to improve digital learning for Inuit artists. Pinnguaq is another Nunavut-based technology startup that incorporates STEAM (Science, Technology, Engineering, Arts, Math) into unique digital learning applications. In addition, Pinnguaq works with Computer for Success Nunavut (CFSN) to provide free technology tools (laptops and other devices), addressing the lack of hardware access that is an issue in many Nunavut students' lives. Pinnguaq is a lead for the Inuit Arts Marketing and Distribution initiative funded by Canada Council for the Arts' Digital Strategy Fund. This initiative is designed to improve Inuit arts distribution, using the infrastructure (makerspace hubs) made possible by a $10M Smart Cities grant from the federal government.

How International Jurisdictions Support Digital Transformation in the Arts

Australia, Belgium, France, the United Kingdom, and the United States of America were identified as leading jurisdictions pioneering the adoption and use of new digital technologies in the arts in the 2016 Arts in a Digital World Report. Their most recent efforts within this domain were profiled once again to understand their recent progress. The United States' digital transformation efforts are notably propelled forward by the efforts of the commercial sector, meanwhile the other jurisdictions profiled feature extensive and detailed federal public policies that carve the path to digital transformation in the countries' arts sectors.

Australia

The Australia Council for the Arts shows their commitments to supporting digital transformation in the arts through both their five-year strategy *Corporate Plan 2019-2023* as well as their response document to the Australian Government's *Digital Economy Strategy Consultation Paper*, titled [The Digital Economy: Opening Up the Conversation, Australia Council for the Arts Response](). The Australia Council for the Arts offers grants and programs to enable digital transformation in aspects of arts organization's business model transformation and strategy development.

The Australia Council's commitments are also reflected through *The Future Form: Transforming Arts Business Models* program and the *Visual Arts and Craft Strategy – National Priorities* program. *The Future Form: Transforming Arts Business* leadership program supports small- to medium-sized arts organizations as they make use of new digital technologies to transform and innovate around their core business models. The program has a four-phase process: discover, ideate, experiment, and evolve. Through individual coaching, online learning sessions, and residential labs, participants receive guidance from facilitators that have expertise in technology, data, and the digital business environment. The *Visual Arts and Craft Strategy – National Priorities* program encourages digital

innovation with the aim of deepening audience engagement. The program welcomes applicants with ideas to make use of digital and online platforms to enhance the audience experience.

Belgium

Based on recommendations developed during a two-year consultation process (Bouger les lignes/Move the lines), the Ministry of Culture of Francophone Belgium (Ministère de la Culture et des Médias) laid out a 40-point action plan for a new cultural policy in Francophone Belgium released in 2017. Action #30 specifically indicated that creating a Digital Cultural Plan is a priority, but digital opportunities and challenges are important considerations noted throughout the action plan.

However, Belgium's *general policy plan for the region for 2019-2024* lacks specific actions on the digital front. Despite this gap, the country has undertaken digital initiatives, including CréaNum (an online platform enhancing digitization and creative use of artistic works), and ARTECH (a workshop and training program built to help creative entrepreneurs, individuals and arts organization get familiar with digital tools) to move digital transformation forward.

Belgium has established the foundation of an actionable Digital Cultural Plan. While the specifics of this plan still need to be determined, it shows that the Government is committed to addressing the challenges and opportunities of digital technology in the arts and culture sector.

France

In France, the Ministry of Culture and Communications' Digital Innovation Department emphasized the use of open data and metadata through its National Program for Digitization and Enhancement of Cultural Content (*Programme national de Numérisation et de Valorisation des contenus culturels)* in 2018. Continued collaboration and knowledge sharing between arts organizations are encouraged by their federal Ministry. Projects such as *Joconde* act as a resource hub as well as a database storing all works digitized by participating arts organizations in France. French regions such as Auvergne-Rhône-Alpes have also implemented plans and programs to support local arts in the new digital world.

The CNC (*Centre national du cinéma et de l'image animée*, or National Centre for Cinema and the Moving Image) initiated in 2002 the DICRéAM (*Dispositif d'aide pour la création artistique multimédia et numérique*, or Device for Multimedia Artistic Creation) to advance the use of digital tools and techniques across all artistic practices.[2] The program is jointly administered by the CNC and three divisions in the Ministry of Culture. The DICRéAM offers three streams supporting the development, production, and presentation/dissemination of works.

The United Kingdom

The Government of the United Kingdom's Department of Culture, Media and Sport released its long-awaited UK Digital Strategy in March 2017. This document posited a framework through which the UK's digital economy would be grown and stimulated across various economic sectors. The Government of the United Kingdom's Department of Digital, Culture, Media and Sport (DCMS) later released their *Culture is Digital* policy document in 2018, specifying the DCMS' commitment to utilizing new digital technologies through audience engagement, digital skills and capability training, and unlocking the creative potential of technology in future strategies. Through this policy paper, the DCMS made 13 commitments to be attained by 2020 in partnership with both public and private

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[2] Dispositif pour la Création Artistique Multimédia et Numérique (DICRéAM). Retrieved from: https://www.cnc.fr/professionnels/aides-et-financements/creation-numerique/dispositif-pour-la-creation-artistique-multimedia-et-numerique-dicream_191324

sector stakeholders including Nesta, the BBC, the Space and the Audience Agency. Digital transformation in the arts was thus advanced by relevant stakeholders within the industry.

Some notable initiatives include the Audience Agency's metrics framework and diagnosis tool, which helps arts organizations determine which metrics they should use to track the progress of their strategic goals digitally, and the Arts Council England's development of a Digital Culture Network, comprised of tech champions who provide digital support, training, and mentorship to arts organizations across England.

Since 2013, NESTA in partnership with Digital Culture, MTM, and Arts Council England have conducted research to keep track of how arts and culture organizations are making use of digital technologies. Almost every year, hundreds of arts organizations across England take part in the Digital Culture survey. Results are collected, analyzed, and then published in a report that is shared with the public to facilitate learning and discussion around the course of digital transformation in the UK's arts sector. In December 2019, Nesta's *Digital Culture 2019* report surprisingly noted that arts organizations have made little recent gains in digital adoption.

United States of America

In the United States, private foundations and technology companies play a more prominent role in pushing forward digital transformation in the arts. The Audience Engine is a collective data analysis solution for the arts sector in Philadelphia which is supported through private foundations. Non-profit entities have also been established by players in the arts ecosystem. The Tessitura system was developed as a non-profit company by the Metropolitan Opera as an enterprise software for performing arts and cultural organizations to manage their activities. Data aggregation and analysis have become common across arts organizations in various states in the US through TRG Arts' cloud-based software service, which allows users to build targeted promotions and perform demographic and buyer-habit research about their patrons vis-a-vis a permission-based system.

Companies in the private sector such as Google and Intel also push digital transformation in the arts forward, with Google Arts & Culture encouraging digital access to art exhibitions and Intel's advanced data-processing technology and its Sansar social VR platform making the museum exhibition accessible and interactive.

Major Changes, Trends, and Policy Gaps that have Emerged Around Digital Transformation

Over the last five years, digital transformation has moved forward in many respects (e.g., digital service delivery; digital literacy upgrading; digital technology exploration in artistic creation; and audience data analytics). However, progress is spotty in Canada, and many collaborative initiatives are still underway.

The COVID-19 pandemic has highlighted the importance of digital technologies in the modern age as well as issues that need to be addressed before digital distribution can become more widespread. Many arts organizations have accelerated online initiatives out of necessity. New tools are encouraging new ways of decision-making and artistic creation. While much progress has been made, there are still some ways to go in achieving total digital transformation within Canada's arts sector.

- The **arts sector responds slower** than other economic sectors, such as finance and even the creative industries, in adopting new technologies. Nesta's Digital Culture 2019 survey found that the largest barrier to adopting new digital technologies, processes, and projects within

arts organizations in the UK was a lack of funding allocated to such activities.[3] Lack of in-house staff time to both implement and understand how to use new digital technologies, processes, and projects was cited as the second largest barrier.[4] Due to the constant multiple demands on the operating budgets of arts organizations, financial risk-taking around investment in digital expenditures has not been easy to justify. Lack of digital familiarity is an impediment as it can cause a potential resistance to new digital skills by artists and arts organization's employees.   In some areas, however, the response to COVID-19 has greatly encouraged more digital adoption.

■ Most provinces and territories have incentives to support the digital development of the creative sector; however many lack programs that directly address **challenges in applying technologies in arts creation, presentation, exhibition, and distribution and marketing**. Despite some training support efforts supported by governments, training of arts organizations and artists remains spotty. In terms of Canadian territories, Yukon and the Northwest Territories have specific programs that support digital activities such as touring and marketing. Several Digital Strategy Fund projects are aimed at increasing digital literacy and capacity building, but it is not clear that these initiatives fill all the gaps within the arts sector across the country.

■ **The UK, the U.S., and Quebec are at the forefront of establishing shared audience data solutions in the arts and culture sectors**. These jurisdictions have worked out the many elements in this form of digital transformation, from collecting data from different systems and embedding analytics into processes to collective data governance. Both the private and not-for-profit (NFP) sectors have developed solutions for the arts in the Western world; for example, the US-based TRG Arts – now allied with Purple Seven in the UK - has implemented a cloud-based software service that allows the user to do patron demographic and buying-habit research. Another example is the NFP the Audience Agency in the UK, which provides uniform ticketing and other data to the UK arts community; it has allied itself with Synapse C, which has developed a similar service for the Quartier des Spectacles in Montreal.

■ While arts distribution and marketing are supported as an eligible expense in some Canadian arts programs (but mainly for creative industries), **there has not been a formal recognition of the need to leverage digital tools** to track arts consumption behaviour for these domains. Arts organizations of all sizes, as well as larger institutions, are active in digital marketing, utilizing social media, email, and website as their channels. However, their typically small budgets and lack of programmatic support for these expenses lessens the potential for success in digital marketing campaigns, decreasing their ability to leverage advanced technologies such as Artificial Intelligence (AI) powered Search Engine Optimization (SEO).

■ The **costs of distributing content, navigating rights issues in an online world, and understanding how to collaborate to increase discoverability and gain market insights are all challenges** explored by many Digital Strategy Fund (DSF) projects. While there is important work ahead on these fronts, the DSF has given the arts sectors in Canada a head start in adapting to the rapid shift to the online world of COVID-19.

■ The distribution **rights** and digital **copyright** struggles of artists have not been fully addressed in the current digital environment. Existing union and guild agreements provide

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[3] *Digital Culture 2019*, Nesta, Retrieved from: https://media.nesta.org.uk/documents/Digital-Culture-2019.pdf

[4] *Digital Culture 2019*, Nesta, Retrieved from: https://media.nesta.org.uk/documents/Digital-Culture-2019.pdf

major cost barriers to producing online material that was essentially created for physical display and performance. There is now a recognition of the importance of online exhibitions because of the shutdown of venues due to COVID-19. Beyond the performing arts' challenges, navigating the rights landscape to digitize physical collections is a problem for major galleries.

- The decline in revenues for writers and music creators is being recognized with some alarm in their creative communities. Temporary financial support for creators because of COVID-19 has revived the notion of some form of Universal Basic Income (UBI) for artists (and the population more widely).

- Many arts organizations have been forced to utilize digital platforms quickly by the COVID-19 international pandemic shutdowns. Social media platforms became the first solution adopted by many smaller arts organizations. **The COVID-19 crisis has demonstrated the importance of being streaming-ready for many artists and arts organizations, but the circumstances also revealed the challenges of understanding, designing, developing, and implementing strategies around using such platforms.** The underlying technology itself often remains unclear, and management teams are commonly unfamiliar with the prerequisites, best practices, or timelines required to successfully engage in the process of developing a bespoke streaming platform.

- The growth of the tech sector has brought on new terms, processes, and products that are not yet well understood within the arts sectors – though there is more experimentation with new digital tools. For example, it was reported in NESTA's *Digital Culture 2019* report that smaller arts organizations were facing digital skills shortages among their admin staff as well as low levels of digital understanding among senior leadership. It is common to find that arts organization leaders are not digital experts themselves, exacerbating the issue of addressing digital literacy and undergoing transformation as leaders find it hard to articulate the new digital skills needed within their teams. This, in turn, also makes it difficult for arts leaders to select the appropriate tech vendors to work with to implement new digital solutions.

- Canada Council for the Arts' Digital Strategy Fund has encouraged the development of projects that include collaboration across the arts sector and sustainability to ensure that the beneficial outcomes of these initiatives have long-lasting effects. Numerous engagements have been funded since its launch in 2017 that bring technology and innovation experts from outside the arts and culture sector in to address their digital needs. As such, **cross-sector collaborations are becoming more prevalent and important to encouraging digital transformation in the arts**. Some projects include:

  o The Audience Analytics Collective, led by TOLive, seeks to trial a shared data aggregation and analysis platform with a range of performing arts organizations and museums in Toronto to encourage the use of data to inform decision making. The first phase of the project featured a series of workshops by international vendors offering data analysis solutions, including Environics Analytics, The Audience Agency (UK), and Meltwater among others. The project is now moving into selecting a vendor to build the platform, which could become a permanent staple in Toronto's arts sector.

  o Digital Stage, led by the Canadian Opera Company, aims to explore the possibilities of digital technologies in the performing arts sector. Through a partnership with The Screen Industries Research and Training Centre (SIRT) at Sheridan College, a series of workshops were held where the project's partners were encouraged to explore the possibilities afforded by utilizing new technologies in performance.

- DigitalASO, led by ArtsPond and carried out through a community of regional representatives across Canada, is an ambitious national project that emanated from the DSF. Now entering its second phase, DigitalASO aims to enable digital literacy, understanding, and application within the arts sector through offering a wide range of research, collaboration, and learning opportunities, such as critical case studies, practical workshops, and strategic alliance building opportunities. After producing symposia, a hackathon and more in Phase 1, Phase 2 (2021 to 2023) aims to begin building open source, open data digital arts services platforms that respond to the ICT needs of the arts and culture sector.

- DigiArts Toronto, led by Luminato, was conceived as a knowledge-sharing forum for the Toronto arts community to share the digital learnings from many DSF projects and other sources. In the wake of the COVID-19 pandemic, the project has pivoted to additionally equip its partners with enhanced discoverability, which has become increasingly important during these times. SEO specialists are being scouted and will be brought in to enhance the Toronto arts communities' collective digital presence.

- Managing the incessant and explosive flow of content being consumed on digital media platforms and the rights and metadata attached to them will require more efficient and effective tools. Blockchain technology received a lot of attention, expectation, speculation, and early adoption in the last five years, including among start-ups and developers for digital music, media, and visual arts. These technologies notably provide more comprehensive and accurate data about consumption, creator credits and rights holders. Despite early excitement around blockchain technologies, adoption of it has been slow. Protecting creators' rights online remains a difficult endeavour.

- With respect to adding creative content online, rights agreements can make it expensive for performing arts and music organizations to make their previously recorded content available online. This situation arises because of the prevalent lack of digital distribution rights included in artist agreements. The COVID-19 crisis has demonstrated the importance of being streaming-ready for many artists and arts organizations. While existing content may have expensive rights barriers to overcome, new video content developed in response to the COVID-19-imposed shutdown of physical facilities has engendered greater rights flexibilities among the stakeholders. It bodes well for a future environment beyond COVID-19, though rights contracts will need adjustments when next negotiated.

A COVID-19 relevant conclusion:

- To conclude, as the adoption of digital technology is advancing in all aspects of society, certain jurisdictions have set ambitious digital strategy goals or are developing plans to implement digital strategy frameworks in their respective arts sectors. The physical gathering constraints that the COVID-19 pandemic influenced has amplified the need for vastly upgrading online presence and digital capacity of all arts organizations – from the dissemination of partial or whole works online to audience engagement, to improving discoverability via search engine optimization (SEO), and to the daily operation of cultural organizations. COVID-19 has encouraged arts organizations to leverage digital platforms, practices, and contact with audiences. Artists and arts organizations must now be able to put content online, establish digital channels through which to communicate with their audiences, and develop the capacity to work remotely to be able to function in the world's new normal.

- As the impact of the COVID-19 crisis spreads, governments in different countries at all levels are mobilizing to sustain the stability of the arts. Issues around the exploitation of artists' digital rights need to be addressed for digital distribution to be a viable solution in the near-term. While immediate action is critical, support and directions to a midterm and long-term horizon are needed for the arts sector to thrive in a new normal. The rapid deployment of digital content and tools has tested the resilience of arts organizations throughout this crisis, regardless of their size.

1. Introduction

1.1 Mandate

The Arts in a Digital World refresh report will examine the state of digital transformation in the arts sector in Canada as well as in a select few international jurisdictions. The report will review various incentives and other public measures to stimulate greater use of technology in the creative processes of artists and arts organizations and in business models and their operational practices.

The research and analysis for this update of the 2015 report sought to answer the following questions posited by Canada Council for the Arts:

- What are the major changes, trends, and policy gaps that have emerged over the five years since the initial report was first commissioned?

    o This topic is discussed in Sections 3 and 4

- What is the current state of the Canadian arts sector by category, and what are (if any) the gaps and needs in the arts community?

    o This topic is discussed throughout this report

- What other jurisdictions have done in the last five years in terms of creating initiatives that support digital transformation in arts? In addition, what are the key initiatives that the Council should be aware of?

    o This topic is discussed in Section 3

- What are the anticipated impacts on artistic creation, operational business models and administration brought on by the application of technology?

    o This topic is discussed in Sections 2 and 4

The main focus of the review is the state of policy among arts agencies and funders with respect to initiatives supporting the use of technology in the transformation of the arts. This focus is shaped by the continuing evolution of technology and its direct and indirect effects on the arts.

This research was conducted through the first phase of the COVID-19 pandemic from March to September 2020. At the time, a decision was made not to carry out external consultations due to the uncertainty of the pandemic situation and the challenges faced by arts sectors around the world. Because of this decision not to ask stakeholders and other players from various jurisdictions for their insights at this time in the COVID-19 pandemic, it was proposed that the report be based primarily on desk research and analysis, amplified by Nordicity's own experience in this field.

1.2 Methodology

The overall methodology consisted of a systematic literature/document search, including the ongoing experience of Nordicity in the conduct of its consulting projects. Nordicity has also undertaken a few environmental scans as part of the knowledge development of the arts community. These scans provide a useful source of examples to illustrate the digital developments for this review. Some of the examples include the environmental scan for Digital Reach commissioned by the National Ballet of Canada, research for the Canadian Arts Discoverability Initiative led by Beaverbrook Art Gallery (BAG). All references cited in this report are in the public domain.

An environmental issue that has arisen, of course, is the destabilizing impact of the COVID-19 pandemic on the arts community. It has led to major responses and financial support by governments everywhere, in part directed at the arts community. This literature review includes an account of some

of the initiatives that have come about in response to COVID-19. It also does in a limited way canvas what public agencies involved in the arts have re-prioritized or otherwise responded to the arts because of the pandemic.

1.3   Context Within Canada Council for the Arts

In 2015, Nordicity was commissioned by the Canada Council for the Arts to explore the ways Canadian and international artists, arts organizations and arts funders have shaped the digital world. Nordicity examined the digital strategies adopted by some leading jurisdictions in Canada and abroad in the arts world. As a result, the Arts in a Digital World report was published and complemented by a survey report of artists, arts professionals, and arts organizations on their use of digital technologies and their digital capabilities.

In 2017, Canada Council for the Arts established the Digital Strategy Fund (DSF) to invest $88.5 million between 2017 and 2021 to help Canadian artists, arts groups, and art organizations understand and navigate the digital world. The Digital Strategy Fund supports three streams of initiatives, including digital literacy and intelligence, public access to the arts and citizen engagement, and transformation of organizational models. Initiatives are encouraged to have a focus on collaboration, sharing knowledge and strategic impact across Canada's national art sector.

From 2017 to 2019, a total of $30.1 million in digital strategy fund grants has been made, accounting for about 7% of total Canada Council funding from 2017 to 2019[5]. Between 2017 and 2021, the Canada Council will invest $88.5M through this Fund. This program will stimulate the digital transformation in the Canadian arts sector.

2.   The Current State of Digital Transformation in the Arts Sector

This section provides an overview of recent technological innovations and what these changes mean for the Canadian arts sector. The introduction of new fundamental technologies--such as broadband connectivity and 5G rollout, prevalent access to touchscreens, and advanced data analytics in finance--has pervaded our everyday life. Although the arts sector has not fully adopted these technologies, arts stakeholders are becoming more aware of technology's potential benefits.

As these technologies are inextricably tied to new business models and ways of doing business, this section also looks at the emerging issues brought by technologies around organizational reshaping and talent skills in the arts sector. Leading technologies are redefining the arts and culture ecosystem and thus will have a natural impact on the business practices and business models of arts organizations as well as on the activities of individual artists.

In this section, we examine the impact of technology developments, largely triggered by other parts of the economy, on the value chain of the arts sector. These findings emerged from research efforts to understand the current extent and implications of the digital development progress in the Canadian arts sector. Efforts were tailored to examine the impacts along with the value chain categories of (i) creation/presentation/exhibition, (ii) distribution and marketing, and (iii) audience behaviour and data analytics.

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[5] Data derived from Canada Council for the Arts Website *Stats and Stories*

2.1   New Tools in Arts Creation, Presentation and Exhibition

Both individual artists and arts organizations are adopting foundational technologies into their creative processes to transform the content they create. As existing technologies mature with infrastructure and hardware development, the arts sector is seeing broader tech applications in art creation as well as presentation. Virtual Reality (VR) and Augmented Reality (AR) are being adopted by organizations in the performing and visual arts; Sophisticated user interface platforms are increasingly being developed to allow for deeper digital interactions between audiences and arts producers; 3D visualization and 360-degree image capture technology, initially adopted in the real estate industry, is now becoming prevalent in venue spaces including museums and galleries. The overlap between the creative industries and arts sector is becoming more apparent, representing the need for more collaboration between artists, designers, programmers and digital technicians.

Some case studies of emerging digital content presentation include:

Digital Drupal Development and AGO

The AGO partnered with the Metropolitan Museum of Art in New York and the Rijksmuseum in Amsterdam to launch a new means of experiencing art collections online. Built by the Drupal development company, Digital Echidna, *The Gothic Boxwood* project is an interactive web platform featuring high-quality photographs that allows audiences to zoom in and see the incredible artistic details of the tiny Gothic boxwood miniatures art pieces created in the early 1500s. This platform was built as a pre-cursor to the 2016-2017 exhibition *Small Wonders: Gothic Boxwood Miniatures* at the AGO and features some works that have never been seen before in North America. The Gothic Boxwood Project also shares curated research related to the history and construction of each piece of the art collection, alongside educational resources that allow the collection to be studied remotely in a classroom. The research contents of the website were compiled and created over five years through collaborations with scientists from the Canadian Conservation Institute, the University of Western Ontario, London' Museum of Natural History (in the UK) and even NASA. While presenting photography is not a novel approach in digital art, many new solutions were applied to the web applications programming interface (API) to extend the platforms functionality.

The Gothic Boxwood Project was built on a Drupal content management system, which is a prominent open-source software used to structure web-based platforms. A content strategy was then developed for the platform, featuring interactive graphics and an accessible user interface design that is AODA compliant. The site was also optimized for mobile use.

An interesting quality of this online exhibition is its function as a research tool. The Scholar Tool is applied to enable deeper engagement with the images by way of features such as a deep zoom and scroll functionality. The Gothic Boxwood Project Collection's API includes a system for synchronizing data within the AGO's overall collection database system, which allows users to curate their own gallery of the AGO's content. Registered users of the AGO's website are able to contribute to and manage personalized content through their own user accounts. The AGO's innovative effort adds new aspects to digital art experiences in three ways:

- Allows users/audiences to interact with the art in new ways;
- Encourages new forms of dialogue through digital means; and
- Allows for the curation of one's own individual gallery.

The AGO's Gothic Boxwood Project provides new opportunities for the gallery to engage with its audiences and potentially gain deeper insight into their interests based on the ways they choose to interact with the platform.

3D Virtual Tour and Aga Khan Museum

As part of their #MuseumWithoutWalls Initiative amid COVID-19, the Aga Khan Museum transformed their Collections Gallery into a virtual space. Using a full solution company that serves industries such as real estate, travel & hospitality, and facilities management, the Aga Khan Museum leveraged 360-degree image capture and 3D modeling technologies to digitize their Collections Gallery. Viewers are able to virtually walkthrough the entire space via VR glasses or simply through their various digital screens.

The viewing options offered by the Aga Khan Museum's 3D Virtual Tour include a dollhouse, floorplan, and measurement view. The dollhouse view is powered by the Cortex AI platform, which is a powerful deep learning neural network that creates a 3D digital twin and automates many tasks from 3D reconstruction to color correction, and even labels the rooms and their objects. The digital assets produced are compatible and sharable on many platforms such as social media and email using an embedded website link. The Aga Khan Museum's immersive initiative is an example of digital technology designed for other industries, which is used in an application for arts.

Immersive VR and National Film Board of Canada & National Theatre

Creator Jordan Tannahill and creative tech studio, All Seeing Eye, in collaboration with the National Film Board of Canada & National Theatre's Immersive Storytelling Studio created the VR performance experience "Draw Me Close". This experience was designed to blur the worlds of live performance, virtual reality and animation. This individual immersive experience took audiences through a memoir of the relationship between a mother and her son after she was diagnosed with terminal cancer. The audience is ushered into the performance as the protagonist alongside a live performer. This piece was supposed to make its North American debut at Soulpepper Theatre in June 2020 but has since been cancelled due to the COVID-19 pandemic.

"Draw Me Close" shows the capability to push the limits of art creation by using technologies to combine live performance, motion capture and VR. This collaboration between the technology company All Seeing Eye, film and theatre institutions brings emerging technology into more traditional forms of live storytelling. The presence of a live performer makes the experience entirely unique in its approach, providing truly personalized audience experiences by bringing them both physically and virtually into the experience.

Immersive VR, the NFB and Indigenous Language Storytelling

Biidaaban: First Light is an award-winning VR experience created by Indigenous filmmaker Lisa Jackson in partnership with 3D artist Mathew Borrett and Jam3 design and experience agency. The film envisions a future in which Toronto is overtaken by nature, encouraging participants to rethink their role in this new space. Toronto's Nathan Phillips Square and Osgoode Subway station are used as backdrops in the film, created using to-scale architectural models of the landscape. Throughout the experience, users interact with written Indigenous North American languages including Wendat, Kanien'keha:ka (Mohawk), and Anishinaabe (Ojibway); this is the first interactive installation work that tells its story entirely through Indigenous languages. The film premiered at the 2018 Tribeca Film Festival and has since been presented to more than 25,000 people internationally.

The intricacies of VR development were explored in the production of *Biidaaban: First Light*. 2D film clips were rendered in 3D unity-designed environments. The timing of text-based elements integrated with the design and execution of the visuals proved challenging to execute for team members who were used to more traditional filmmaking processes.

Ultimately, users would be entered into this new world, allowing them to explore a ten-foot space around them. *Biidaaban: First Light* engages audiences in unique ways, allowing them to interact with and explore Indigenous stories not traditionally told by mainstream media.

Creative Uses of Blockchain and Crypto Artists

Martin Lukas Ostachowski is a Quebec-based artist who started working with physical art. He expanded his practice to digital art and started using the blockchain technology as a creative tool in 2018. His body of work explores the parallel between the blockchain and clouds, which both display a falsely chaotic architecture. Through algorithm-based visualizations and blockchain-based generative software, Martin Lukas Ostachowski deconstructs, rehashes and remixes pictures of clouds. His collages are then tokenized on the blockchain, a process that ensures the traceability of their use. As such, the blockchain is not only a creative tool but also an integrated part of the distribution of these projects. Martin Lukas Ostachowski's works have been presented both in Canada and internationally.

This example shows how resourceful artists can be. A technology (blockchain) that at first sight did not seem to offer artistic opportunities has been adopted and utilized to create unique and topical works. Through this example, it is evident that technology not only helps artists materialize and disseminate their ideas but also serves as a source of inspiration to them.

Artificial Intelligence at Musée d'Art de Joliette

In 2017, the Musée d'Art de Joliette (located an hour North of Montréal) invited the British sculptor Mat Chivers for a residency to produce a work that would celebrate the booming AI scene in Montreal. In collaboration with programmers, 3D specialists, students, and robotic saw operators, Mat Chivers created the *Migrations* exhibition. For this work, the team developed an artificial intelligence that analyzed 1,500 pieces of clay shaped by human hands. Then, they asked for the AI's response, resulting in the development of the world's first AI-made sculpture, an imposing black and white work that questions the relationship between matter and information.

Building on the prior blockchain example, this case study illustrates how arts organizations, regardless of their size, can contribute to the exploration of digital tools and techniques. With the private support of Element AI, USIMM, Duchesne Lac-Megantic and UNTTLD, the Musée d'Art de Joliette helped Mat Chivers achieve a truly unique artistic and technological prowess.

Dyscorpia and the Exploration of Bio Art and Digital Technology

The **Enterprise Square Galleries** research hub and presentation centre at the University of Alberta, presented the Dyscorpia exhibition in 2019. The objective of Dyscorpia was to present innovative and creative uses of digital tools and technology. As such, this event embodies the array of sub-disciplines that the term digital art encompasses: sound creation, virtual intelligences and realities, animation, interactive media, video and installations. Dyscorpia primarily questioned the increasing connections between our bodies and technology through art, discussions, and workshops. The event was supported by the Edmonton Arts Council, the Kule Institute for Advanced Study, the Social Sciences and Humanities Research Council of Canada and the University of Alberta.

This case study reflects that, as technology advances, the artistic practice also evolves as it embraces new tools and techniques, leading to the creation of an interconnected web of sub-genres and new multidisciplinary works. Artists, arts centres, organizations, and research centres need to be part of this conversation.

Digital Performance Exploration and SpiderWebShow

FoldA – Festival of Live Digital Art is an annual festival that explores the intersections of live theatre performance and digital technology in Kingston, Ontario. Launched by SpiderWebShow in 2018, the event is offered in a hybrid physical/digital format whereby some events are streamed and offered exclusively online while others invite audiences to a physical location. The event acts as an idea incubator, presenting performances with digital components at three stages of development: alpha (early stage), beta (market testing) and go (ready for production release). Works in an alpha stage of development one-year can come back the next year at any later stage. Modelled around the principles of iterative product development and incorporating in the language of software design, the FoldA festival embraces the possibilities afforded by new digital technologies in the arts and encourages further digital innovation in the Canadian arts and culture sector.

In the wake of the COVID-19 pandemic in 2020, FoldA pivoted to a digital delivery model. The event this year features live streams to connect digital performance innovators across Canada, webinars to teach digital skills and "The StartUp" streams, a forum to present performances in various stages of development where producers can get feedback from specialists and audiences in real time.

The case studies above represent the application of technology for art creation, presentation and exhibition. The examples profiled are exceptions and represent the first wave of applications – they are not yet mainstream. So far, these experiments do not generate an obvious financial return. However, they demonstrate potential benefits in audience development, discoverability, and digital arts awareness.

2.2   New Platforms in Distribution

This section provides research insights into the current digital landscape for arts distribution. Much has changed over the last five years. New foundational technologies have pushed digital infrastructure forward to disseminate content in various ways. 5G technologies will improve streaming quality when widely available; live streaming infrastructure and equipment has become much lower cost; cloud technology addresses storage and archiving needs for the arts as it does for other business sectors; cloud technology also allows for easier terms of access to new software systems that are the backbone of improved operating systems; Blockchain technologies enable art transactions to be secure and protect copyright through the decentralized nature of blockchain systems. At this point, there has not been wide adoption in the marketplace.

2.2.1   Visual Arts Distribution

Many new platforms for arts content distribution have emerged over the past five years, predominantly founded by startups and big institutions. Because of the different methods of consumption used when viewing the works of performance and visual arts, the business models and technologies the platforms deploy also vary – and no one has dominated the sector as yet.

In visual art distribution, big auction houses such as Sotheby's and Christie's all offer virtual art tours and auctions online. The aggregator Saatchi Art has been a world leader in online art sales, bringing together works from individual artists around the world. Saatchi Art is a peer-to-peer arts selling platform based out of Los Angeles, California, which uniquely serves art content to consumers directly, whereas other prominent distribution platforms such as Artsy are positioned to serve galleries and museums directly. Artsy operates through a subscription business model, allowing users

to search for the ownership of artworks for exhibition curation purposes. Their more comprehensive database and user profile differentiate Artsy's business model from Saatchi Art.

Another unique platform is Magnus. Founded by the entrepreneur Magnus Resch in 2014, Magnus is an app built upon a database that allows users to identify any artworks they see in the physical world on the spot. By harnessing image recognition technology, Magnus has catalogued the digital properties of artworks existing in the physical world to be able to recognize images and provide instant information through user search.

Image recognition technology is also being used by big tech and information companies such as Google to have applications in the arts sector. In 2019, Google Lens – Google's image recognition technology- began to collaborate with de Young Museum and the startup Wescover, expanding the possibility in museum collections and design objects. Google Lens is a standalone app that uses the smartphone's camera to detect the artwork on the wall and provide information about it. The visitors who go to de Young American art collection can explore the art using Google Lens. In the case of Google Lens with Wescover, the technology is applied to artworks that are outside of museum walls. Using Google Lens, the user will be able to point the camera at an art piece on the San Francisco map in Wescover and discover how to buy the piece. It can be a painting or a custom-designed object in a coffee shop or a restaurant. The technology relies on machine learning to identify 3D objects. These cases are special collaborations with Google Arts & Culture, a non-profit online platform developed by Google that provides public access to some of the largest world's art museum's collections. Google provides partner institutions with free technology tools to allow audiences to "travel" the world via VR tours or 360-degree views.

2.2.2   Performing Arts and Other Content Distribution

The platforms used to distribute performing arts content differs from the format of distribution platforms used to distribute static-image art content. The Digital Reach initiative, funded through the Canada Council for the Arts' DSF and led by the National Ballet of Canada, categorized performance content in two broad categories as "content big" and "content small". The "content big" refers to long-form content distribution that enables full-length engagement experiences, such as the streaming of an entire opera performance or a digital museum collection. Streaming and video-on-demand broadcasting are common forms of distribution for long-form content. "Content small" refers to short-form content distribution that integrates marketing and audience engagement purposes.

Some large institutions with global brands are among the early performing arts distribution pioneers. The Royal National Theatre, the Metropolitan Opera and the Berlin Philharmonic Orchestra have invested heavily in various ways to distribute traditional on-stage performances to cinemas and/or online via satellite and broadband internet. More recently, with the rise of streaming technology and the maturation of image-capture technology, institutions are becoming better equipped to make use of digital platforms; therefore digital productions have increased their appearance online.

Long-Form Content Distribution

Overall, long-form content can reach the public through one of three ways:

1. Through **direct streaming from their arts organization's own digital platforms**. The Metropolitan Opera developed the MET streaming service with a catalogue of 600 Metropolitan Opera performances. The Berlin Philharmonic developed the Digital Concert Hall, which is a platform that plays Berlin Philharmonic Orchestra performances to its registered users. This platform streams live performances and records them for on-demand viewing.

2. The more common and less costly approach is **distributing content via a third-party platform** such as YouTube, Facebook, or arts specialty platforms such as Medici.tv, Marquee.TV, and Stingray Classica. The most common business model for these platforms is

monthly subscription-based, offering the potential to build fees into the organization's membership models.

3. The third way is **broadcasting content via traditional networks**, but the demand for content by broadcasters is thin. Various streaming platforms will likely find ingenious ways to stream and generate revenue directly or indirectly through greater discoverability.

There are a growing number of third-party content sharing platforms emerging with the ability to distribute long-form streaming and/or recorded arts and culture content. Some case studies of prominent streaming platforms in use around the world are discussed below.

Marquee TV and Arts & Culture Streaming

Marquee is a business-to-consumer (B2C) video-on-demand (VOD) platform dedicated specifically to the performing arts. The platform aggregates content from classics to critically acclaimed performances. Productions from the Royal Opera House, Bolshoi Ballet, the Royal Shakespeare Company and more are on the platform. According to a conversation with Marquee TV executives, the highest conversion rate occurred among audiences aged 25-33 from trial to subscription. In comparison to a theatre ticket that can cost over CA$100, Marquee offers a subscription of CA$10.99 a month.

Marquee is an independent streaming platform that works with third-party distributors as well as directly with arts organizations. On top of providing a medium to present their work, Marquee offers arts organizations an opportunity to collect audience data and test engagement using their platform.

Stingray Classica and Music Streaming

Montreal-based Stingray is mainly a B2B company that sells its music services to cable operators in 55 countries. Stingray Classica is dedicated to classical music, opera, and ballet (distributed via cable as well as online). Arts organizations can share a percentage of the subscription revenues Stingray earns and music owners get a percentage of the remaining revenue.

Platforms such as Stingray have a unique value proposition for content providers (i.e. arts organizations). As Stingray is in the midst of making deals with LG, Apple, Panasonic, Roku and soon Comcast for integration into their subscription services and physical products, Stingray Classica positions itself as a platform that has a broad reach (e.g. cross-promotion through both cable and digital channels). Among Stingray's many priorities is the modernization of the classics, focusing on appealing to youth in response to facing an ageing market.

Medici TV and Classical Music

Medici TV is a business-to-business (B2B) and business-to-consumer (B2C) streaming platform, which offers the world's largest library of classical music. The platform has approximately 280,000 registered users. Medici TV's B2C subscription is US$12.99/month (about CA$16.5) and US$129/year (CA$163.88) (purchases subject to foreign exchange rates at checkout for Canadian customers). It has licenses to over 3000 works of classical music, including concerts, documentaries, operas and master classes from university libraries and conservatories.

Medici TV also broadcasts live events in partnership with arts organizations (e.g., Berliner Philharmoniker, London Symphony Orchestra, New York Philharmonic).

Cinema Broadcasts and Royal National Theatre

Royal National Theatre broadcasts live productions via satellite to cinemas around the world. Live broadcasts are now shown in over 2500 movie theaters in 65 countries, and it is now a financially sustainable model. The cost of these productions is high as they utilize state-of-the-art technology and tailor each broadcast to the play. A typical capture will include more than a dozen cameras, a direct sound linkup, and carefully arranged angles that recreate the live-theater experience. The average costs for one live broadcast ranges between £250,000 (CA$386,000) and £300,000 (CA$464,000), which is a substantial production cost.

The Royal National Theatre's National Theatre Live production established a new business model that has proven to be financially sustainable, although upfront costs remain high due to the high standard of cinema-quality production.

Broadcasters and Arts and Culture Streaming

CBC Gem: CBC's streaming service provides live and on-demand access to CBC's full programming slate, which includes CBC Arts. It is free for registered CBC members and for CA$4.99 a month, Canadians can enjoy premium features such as ad-free streaming and livestreamed content from the CBC News Network.

PBS All Arts: A free, on-demand service that features programs in dance, music, theater, visual art etc. All Arts also partners with institutions and artists to produce and promote content.

ARTE: A publicly funded television channel based in Germany that offers content for all of Europe. Since its creation, ARTE has been committed to cultural diversity and multilingualism. ARTE recently moved from just traditional broadcasting into streaming additional content online. They have subtitled their content in English to launch their platform in North America.

Broadcasters have the potential to collaborate with local institutions and bring the best of a region's cultural offerings to national or international audiences. Although costs are dropping when it comes to equipment, video capturing, and storage and production, challenges remain for broadcasters around the high cost of acquiring streaming rights in different geographical jurisdictions. Broadcasters are also less likely to broadcast artistic work that is less accessible to larger audiences. Thus, challenges remain for certain artists to be exhibited on these channels.

The live-streaming world, though gaining momentum in the current COVID-19 environment, is still developing its ability to put its content behind a pay-wall in any kind of consistent and meaningful way. The COVID-19 crisis has demonstrated the importance of being streaming-ready for many artists and arts organizations, but the circumstances also revealed the challenges of understanding, designing, developing and implementing such platforms, in particular for smaller organizations. Thus, social media platforms become the first stop for small organizations to turn to. Facebook, YouTube, and Vimeo are the most common platforms for small organizations to stay connected with their members and communities. Organizations such as Tapestry Opera, Citadel + Compagnie, etc., have acted quickly to put performances online by recording or live streaming during the pandemic shutdowns. Many grassroots platforms have emerged to help smaller organizations and individual artists during the pandemic. The Social Distancing Festival is an online artist community built to showcase the work of artists around the world who have been affected by the COVID-19 pandemic shutdowns; MusicTogether is a project that accepts and funds applications to perform music online; URGNT is an online venue that has quickly adapted to become a platform that promotes social distancing and showcases performances from musicians.

Whether or not smaller organizations have the financial and technical resources to develop a streaming platform themselves, the underlying technology of these platforms remains a challenge for administrative staff to comprehend. The management teams in smaller organizations are not familiar with the prerequisites, best practices, or timelines required to successfully engage in the process of developing a bespoke streaming platform. The digital transformation journey requires literacy, time, and resources. As well, it starts with developing an understanding of the ins and outs of the technology intended to work with.

Short Form Content Distribution

With the vast expansion of streaming services, short-form content has become a complementary focus. Platforms such as Quibi (a streaming service launched in April 2020 for short-form content on mobile devices, which has recently shut down) and TikTok are designed to exhibit a much wider range of content than previously possible. Smartphone usage is so high that it has surpassed laptops/desktops in market share for digital advertising – and is, therefore, an important platform for arts content and information.

Short format content is often integrated within an organization's overall audience development and marketing plans. There is an increasing number of platforms through which short format content can reach audiences. Each one of the platforms captures audiences in a different way based on its nature. Short-form content is currently being used for:

- Educational Purposes;
- Innovative Storytelling;
- Apps or Partner Websites; and
- In-gallery experiences.

Arts and culture organizations have a variety of innovative ways of marketing their content and brand to audiences. Some case studies are included below.

Innovative Storytelling and New York Public Library

The New York Public Library developed graphic versions of classic books specifically for Instagram Stories called InstaNovels. InstaNovels was designed to double as a flip book that audiences can control with their thumbs. Animated by different artists, each with a unique conceptual look.

Video Game and Tate Modern

Tate used Minecraft to build virtual worlds that were inspired by works in the collection. Users can explore how artworks were made, what inspired the artists and understand stories behind them. This game offers a combination of art appreciation, art history and free-roaming fun.

While debates have emerged as to whether digital distribution takes away attendance at live performances and exhibitions, research by Environics Analytics (detailed in Section 2.3.1) has shown that this is not the case. [6] Digital experiences drive live experiences, and technology's advances in this area are addressed in the next section.

2.3 New Audience Behaviour

This section provides insights into audiences in this increasingly digital world and addresses technology trends that are affecting audiences' consumption patterns. Some key trends related to arts and culture consumption are listed below.

2.3.1 Digital Experiences are Driving Live Experiences

The impact of digital communications on arts and culture has been quite widespread over the last several years. The 2016/17 Arts and Heritage Access and Availability Survey by Environics Analytics found that two-thirds of Canadians engaged in some way with arts and culture in an online environment. Primarily, this engagement was through social media to learn about and/or discuss artists and art content (45%), watch pre-recorded performances (41%), or to learn new artistic skills/take lessons (38%). That survey recorded that already 15% of the respondents had live streamed an arts performance. Video was found to be the content format that captures the most audience attention, followed by news articles.

This same survey also found that digital experiences are driving people to go out and enjoy live experiences, not replacing them. In fact, Canadians under 35 are most likely to say their online arts consumption has led to an increase in live attendance (28% vs. 18% aged 35 and older). Among Canadians that have streamed or watched pre-recorded content on the Internet, almost one-quarter (23%) say they attend more live arts events as a result. For most people (67%) online consumption is not having any impact on live attendance – which is a statement in itself and a challenge to arts managers.

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[6] Environics Arts and Heritage Access and Availability Survey 2016-2017. Retrieved from: https://epe.lac-bac.gc.ca/100/200/301/pwgsc-tpsgc/por-ef/canadian_heritage/2017/051-16-e/report.pdf

Most recently, Business / Arts survey [Arts Response Tracking Survey (ARTS)](#) released in June 2020 reveals that Canadian culture-goers embrace the digital as the alternative cultural experience during the pandemic. Half (50%) of the respondents (identified as culture-goers) had watched a digital arts event or culture performance online or taken a virtual tour of a museum. Over 10% of the culture-goers (13 % of outdoor and indoor goers, 14% of museum culture-goers) reported that they are willing to pay 50% of a full ticket price to watch the same performance digitally online that they would currently attend in person. As well, almost one third (26%) of the indoor culture-goers will attend as soon as institutions are open and following public health guidelines.

2.3.2 Younger Audiences Continue to Access Arts using Technology

The same survey revealed that younger audiences are the primary users of digital technologies. More than eight in ten (84%) have used technology or the Internet to access arts content compared to 66% of the total population. Youth are more likely than the average to have used social media to talk about and/or discuss artists, cultural organizations or events (64%); to watch a pre-recorded arts performance on the Internet (53%); to use the Internet to improve skills/find lessons related to the arts (51%); to upload to the Internet something they themselves created (28%); 22% of them have streamed a live arts performance from the Internet that is happening in real-time. The arts activities/events include music performance or concert, craft show or fair, theatre performance, visual art exhibit etc.

Among all the social media platforms, Facebook is one of the most used – with some 55% of the total population in Canada are active on the site, according to a 2019 report. While all age groups use Facebook, the usage among teens has dropped in favour of other platforms, particularly YouTube, Instagram and Snapchat. Based on data collected as of January 2020 from Statista and StatsCan, about 34% of the Canadian population are Instagram users, which ranks it the second most used social platform in Canada after Facebook.

2.3.3 Understanding the Applicability of Digital Technologies to Audiences

While digital technology is driving innovation and change across all industries, including the arts, its function is especially relevant in terms of its impact on audience behaviour and engagement. According to research conducted by Business/Arts in 2018, the top reasons why digital content appeals to consumers includes the ability to "access to more detailed information"; the "ability to revisit an experience later"; and the ability to have a "deeper understanding of content". This relationship between digital content access and audiences is increasingly being recognized by the arts community.

2.4 Other New Possibilities in AI, Blockchain and other Emerging Technologies

AI-driven Prediction and Analysis

In the last five years, alliances of arts organizations in some parts of the world have been tapping into advances in data analytics, data structures for web discoverability, and AI-driven prediction techniques. The purpose has been to develop data-driven insights on audience behaviour for both individual arts institutions and across several arts organizations in the same market catchment area. Artificial Intelligence (AI) driven insights and machine learning technology enable organizations to gain deeper insights into their audiences. With these insights, they can develop and implement strategies for increasing ticket revenue and audience loyalty.

Data analytics is also being applied to quantify the impact of promotional activities by engaging in social media and digital news publication monitoring. Text analysis AI technologies drive this application in media intelligence. Through applying these technologies to text-based datasets, which include social media, forum posts, and digital publications, performance insights can be gleaned; the results have greatly increased accuracy in content and strategic planning and can generate higher financial yields. As one example, there is more audience data now available to be analyzed to help venues affected by COVID-19 related cancellations to predict the results associated with choosing different ways to deal with these situations – whether to offer a refund, turn purchases into donations, or provide vouchers for future performances.

On the one hand, private companies are placing big bets on data and analytics with sophisticated innovations such as artificial intelligence to uncover patterns and even build recommendation engines. Environics Analytics is a Canadian firm that specializes in integrating data from multiple sources, for example linking data about Canadian lifestyle and behaviour to a neighbourhood level of segmentation by way of postal codes. Although the core concept of geographic segmentation has been a common marketing strategy for decades, the fine-tuning offered by data analytics practices makes the segmentation more effective.

Nesta recently analyzed the amount of research being conducted around the world on the impact and intersection of AI in the creative sectors for the Creative Industries Policy and Evidence Sector[7] in the UK. The agency note that AI algorithms are active influencers in the discoverability of new cultural content online as recommendation engines on platforms like YouTube, Spotify, and Netflix play an important part in their audience's decision-making processes. The digitization of cultural content means that their associated images and text can be analyzed by machine learning software, which can then be taught to actively identify patterns within the data to influence search engine recommendations. Once a difficult and exclusionary endeavour, AI tools are now becoming more accessible through open-source software available on websites like GitHub. One example of AI's application in the discoverability of art is through the system ArtPI. Boasted as the first public API in the traditional art world, ArtPI uses AI and deep learning models that were trained using more than 1 million art pieces to improve the discoverability and searchability of art pieces. The system understands the concepts of style, subject matter, light, composition, and various other aspects of art. ArtPI offers a plug-in or full API to art businesses to better their web platform's search engine capabilities as well as offer customized predictive recommendations to art audiences to better their engagement with these works online.

Search Engine Optimization and Semantic Web

Data analysis also has a function in improving discoverability on the web. Search engine optimization refers to methods and approaches that allow a website to be more easily discoverable through organic keyword searches. Search engines and their algorithms rank web documents by relevance and importance. Relevance is referred to as the degree to which a document's content matches a search term and its intent. Importance is the degree of priority assigned to a document, determined by the number of times it is cited on the web in other documents, webpages, and social media sites.

The semantic web is an extension of the standard web in which information is given well-defined meaning to allow the web to be truly machine-readable and to make the information it contains structured in a logical, comprehensible, and transparent fashion. SEO approaches for the semantic web include:

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[7] *The Art in the Artificial AI and the Creative Industries.* Retrieved from:
https://www.pec.ac.uk/assets/publications/PEC-and-Nesta-report-The-art-in-the-artificial.pdf

- Making use of linked (open) data: Linked data connects structured data from different sources allowing users to find other related data in a specific search.

- Auditing a website's structured data: Structured data is a standardized format for providing information about a webpage and classifying that content on the page.

- Ensuring that relevant and complete structured metadata exists for all media assets: Structured metadata pairs information tags (like title and description) with content formats that are not otherwise machine-readable (e.g., image and video content, otherwise known as unstructured data).

Search engine indexing practices are ever-evolving, with recent advancements being made around natural language detection. Search engine indexing algorithms have become more sophisticated in their ability to provide web users with answers to their questions. Boolean search structures are no longer needed as AI algorithms are being programmed to understand the meaning of a search query in its entirety, rather than simply providing results related to keywords. Google has been at the forefront of innovation with its search engine's linguistic AI capabilities. Their 2016 Hummingbird algorithm is computed to understand the intent and contextual relevance of more complex sentence search queries. As the ranking of search results evolves with AI algorithm indexing practices, ensuring a digital platform is properly structured and text-based data is up to par can prove a continuous and resource-intensive task.

The Canadian Arts Presenting Association (CAPACOA) led a national project exploring the topic of linked web data and metadata in the performing arts. The aim of this initiative was to improve the discoverability of Canadian performing arts organizations by making use of a combination of the approaches mentioned above. The results of their work are accessible to the wider Canadian public through their website.

Utilizing common and recognized data structures on digital platforms for web discoverability has been thrust into the spotlight as arts and cultural organizations navigate the trials posed by the COVID-19 pandemic. Digital and web-based discoverability is immensely important as audiences are forced to stay at home and art institutions lose their traditional, physical point of connection to them. As such, the current environment is encouraging further digital transformation in the arts world in this digital realm.

Open Data Sources

The increased application of data analytics in the arts and culture sector points to new possibilities for the pricing and sale of tickets as well as the customization of fundraising approaches in the development departments of arts organizations. For example, data analytics can support ROI analysis of specific ticketing programs and/or promotions. Data analytics technologies can also track the audience journey overtime and segment audiences by way of motivations, etc. AI technologies are at the forefront of providing these insights. There are several companies that specialize in media intelligence and social media monitoring that can apply their techniques to the arts community (i.e. Meltwater, Cision, and Brandwatch to name a few). Many ticketing platforms also provide focused data solutions for performing arts organizations.

One application is the model of shared data warehouse adopted by non-profit alliances, typically developed with government or foundation financial support. Data sources, such as ticketing systems, from different organizations are pooled together and coupled with national household survey data. Examples, such as the Audience Agency in the UK, Synapse C in Montreal and the Philadelphia-based Audience Engine in the US, will be cited in detail in section 3.

Blockchain and Rights Management

Managing increasing media consumption and the rights and metadata attached to them will require more efficient and effective tools. Blockchain technology received a lot of attention, expectation, speculation, and early adoption in the last five years, including among start-ups and developers for digital music, media, and visual arts. Blockchain is a kind of Distributed Ledger Technology (DLT) that allows for a variety of configurations for shared record-keeping. It is a computer program that creates decentralized networks—whether public/open, closed or by permission—to collaborate on and verify data.

Blockchain systems began to be adapted to help facilitate a variety of functions in music: digital music and merchandise sales, logging and monetizing streaming usage, managing payments and financial or file assets, and providing more comprehensive and accurate data about consumption, creator credits and rights holders. Similarly, Blockchain systems are also being applied in the visual arts sector to certify artworks and prevent fraudulent copies. While various legitimate, creator-upload platforms emerged—for downloads, streaming and combination of the two—blockchain-backed arts consumption remains relatively small and niche. While niche marketing initiatives have continued to gain some interest and development, blockchain and machine learning applications which facilitate rights and information management have perhaps sustained more widespread interest.

3. Jurisdictional Digital Strategies in Arts and Culture

In this section, we review public policies and relevant digital strategy plans for arts and culture in domestic and international jurisdictions. New initiatives that emerged over the last five years were reviewed. This section describes the potential impacts of these policies, strategies and initiatives on the arts and culture sector as digital technologies are adopted by stakeholders in this ecosystem.

3.1 Federal and Provincial Responses in Canada

In **Canada,** a system-wide approach to implement digital services across the government – not specifically geared to the arts - has been a key theme in federal and provincial government priorities. In 2019, Innovation, Science, and Economic Development Canada (ISED) released Canada's Digital Charter In Action: A Plan by Canadians, for Canadians which features a set of 10 principles intended to inform the federal government's legislative agenda, decisions, and actions as they relate to data management and the digital economy. These 10 principles include:

1. Universal Access;
2. Safety & Security;
3. Control & Consent;
4. Transparency, Portability & Interoperability;
5. Open and Modern Digital Government;
6. A Level Playing Field;
7. Data and Digital for Good;
8. Strong Democracy;
9. Free from Hate and Violent Extremism; and,
10. Strong Enforcement and Real Accountability.

This document promises an investment of CA$500 million to improve the connectivity of Canada's rural communities, with a national target to have 100% of Canadian homes connected to high-speed internet by 2030. The federal government appointed the first-ever Minister of Digital Government in 2018 to focus on utilizing the possibilities of digital platform technologies to streamline and improve government processes, addressing principle number 5 in Canada's Digital Charter. The Alberta, British Columbia, and Ontario governments also have their own digital transformation frameworks and guidelines.

With respect to cultural policies or strategies responding to the age of digital technology, governments in Canada have responded in various ways. The review below begins with federal policies affecting the arts – excluding the Canada Council – and then follows with a brief description of provincial/territorial policy initiatives.

There are several federal programs that offer incentives to develop digitally-focused businesses in Canada and to encourage greater use of digital technologies by Canadian businesses more generally. Innovation, Science and Economic Development Canada (ISED) offers programs, such as the Strategic Innovation Fund, to invest in digitizing business.

The Department of Canadian Heritage (PCH) has created specific support programs tailored to the key creative (or cultural) industries it serves – film and television, broadcasting, interactive digital media, music, magazines, book publishing, and recently newspapers. In all these creative industries, programs and other measures (e.g. CRTC regulation, tax incentives, and legislation) have been revised or revamped to ensure that Canadian companies and Canadian content can remain competitive in the evolving digital environment. The delivery of this support can be directly made by the Department, via crown corporations, or other NFP or private-public organizations, e.g. Canada Media Fund, Creative Export Canada, CBC/Radio-Canada, Telefilm Canada, and Factor and Musique-Action.

PCH supports the arts sector directly through a series of funds providing financial assistance to arts projects, arts organizations, and individual artists. For example, the Canadian Heritage Information Network (CHIN) offers information resources to the Canadian museum community. Existing standards and guidelines on collection digitization, studies on digital policy and cases, and technology news for museums are updated and published regularly.

Federal crown corporations also fulfill their mandates that advance the Government's digital transformation priorities. In its corporate plan for 2018-19 to 2022-23, the National Gallery of Canada clearly stated its intention of keeping with the Government of Canada's digital transformation agenda through a series of programmatic initiatives and projects. Those initiatives will leverage technology to improve operations and service[8]. Specific initiatives include digitizing the national collection, distance education, and developing a virtual tour of Canadian history. The National Arts Centre (NAC) emphasized the role that digital technologies play in enhancing NAC's national reach and improving operational sustainability in its *2020-2023 Strategic Plan*. Recognizing the disruption brought by COVID-19, NAC listed expanding digital engagement and modernizing digital infrastructure among other key priorities.

Although Canadian Heritage has no fund that specifically targets digital transformation in the arts and cultural sector, digital initiatives are encouraged as solutions to improve overall business practices. Many digital initiatives are qualified and funded through federal funds. For example, The Canada Cultural Investment Fund aims to improve arts and heritage organizations' business practices

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[8] *Summary of the Corporate Plan for 2018-19 to 2022-23*. Retrieved from:
https://www.gallery.ca/sites/default/files/upload/corpplanngc_18_19_e8-final.pdf

and diversify their revenues. [9] The Virtual Museum of Canada Investment Program is another example of a federally funded grant that helps build the digital capacity of Canadian museums and heritage organizations. The program has three funding streams that support online initiatives at different stages of development. The online product can be a virtual exhibit, web-based game, educational resource, or similar.

During the COVID-19 pandemic, the Canada Cultural Investment Fund committed additional funding to the Museum Assistance Program (MAP) and Digital Citizen Contribution Program. MAP offers Access to Heritage and Collections Management funds that support digital development efforts that promote access to heritage works and upgrade digital systems, respectively. The priorities for eligible projects encourage shared approaches, innovation of new approaches and the use of digital technologies. Digital Citizen Contribution Program funds organizations and individual researcher to research and deliver citizen focused activities that support democracy and social cohesion in Canada in a digital world.

Provincial governments have also taken a role in supporting and advocating for digital transformation in the arts and culture sector through financial funding and tax incentives. The collective data sharing for arts project Synapse C, which was designated as a centre of digital excellence by the government of Québec, is an example of a digital initiative that happened because of support from different levels of government. Section 4.3 talks about this digital initiative in detail.

Municipal governments also play a key role in fostering digital media hubs or technology hubs, which further blends the boundary of industries and expands possibilities in the arts sector. For the most part, however, municipal governments support the creative industries like film, and the arts are supported through arts councils. Integration of arts and creative industries – and their support through digital technologies – is relatively rare municipally. One major exception is the city of Montreal's recent cultural strategy The 2017–2022 Cultural Development Policy, which underpins digital technology as the guiding thread of the city's cultural strategy. [10] Another exception is the City of Toronto, which has financially supported prominent DSF fund applications that involve large collaborative initiatives.

3.1.1   British Columbia

Like Ontario, the Government of British Columbia also views the potential of digital adoption by the cultural sector through an economic lens. The possibilities afforded by new digital technologies are predominantly considered to benefit the products of the creative industries and are therefore supported through programs offered by British Columbia's industrial development agency, Creative BC.

A prominent digital support program Creative BC offers is the Interactive Fund. Made available through a partnership between Creative BC and the BC Arts Council, the Interactive Fund supports the development of IDM content and software applications that will be owned and controlled by BC-based companies and individuals. The aim of this fund is to position BC companies and individuals in new markets.

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[9] *Canada Cultural Investment Fund*. Retrieved from: https://www.canada.ca/en/canadian-heritage/services/funding/cultural-investment-fund.html

[10] *2017-2022 Cultural Development Policy*. Retrieved from: http://ville.montreal.qc.ca/culture/en/2017-2022-cultural-development-policy

The British Columbia Art Council's [Strategic Plan 2018-2022](#) defines four strategic directions to inform policy and program decision making over its four-year remit:

- Sustainability and Creative Development

- Equity, Diversity and Access

- Indigenous Arts and Culture

- Regional Arts and Community Arts

Each strategic direction is supported by a list of actions, which are to be carried out according to an internally developed implementation plan.

The impact of new digital technologies is considered through the Sustainability and Creative Development section from an infrastructure point of view. One action the BC Arts Council commits to in this strategy is to "build awareness of the opportunities and challenges relating to new technologies and build capacity in the arts sector to meet them." Another action stipulates they will "increase support for professional and organizational capacity building and sustainability throughout the arts and culture sector. Amplify support for developmental opportunities for artists, arts administrators, and cultural organizations."

These commitments appear to suggest that, at the present time, the value of novel digital technologies are found in their ability to allow cultural workers to improve the efficiency of their organizational processes – for example, through streamlining the ticket purchase processes online and deepening audience engagement with the arts through providing content on new digital platforms. The "Sustainability and Creative Development" section recognizes that once a baseline of digital capacity is addressed, the arts sector is in a better position to create, experiment and innovate broadly.

3.1.2 Alberta

Like Ontario and British Columbia, in an effort to promote Alberta as a digital media hub for the cultural industries, the Province offers capital injections and tax incentives to grow the digital media sector. Its aim is clearly toward the support of the creative industries.

Alberta Foundation for the Arts' [2019-22 Strategy Plan](#) recognizes the use of digital communications to connect arts stakeholders. The five key goals of the strategic plan are:

- Connect communities through meaningful relationship building and foster appreciation of, and participation in, the arts.

- Encourage a healthy arts ecology by supporting artists and by stimulating the sector's creative development and sustainability.

- Affirm and revitalize relationships with Indigenous peoples.

- Encourage equity and inclusion, both in the arts and through the arts.

- Build a performance measurement culture at the AFA to improve delivery.

In the first goal, "connect communities through meaningful relationship building and foster appreciation of, and participation in, the arts," the Alberta Foundation for the Arts intends to enhance interactions and connection through digital communication. The enhancement includes using digital means to promote arts, connect arts stakeholders to AFA programs and improve Albertans' awareness enjoyment of the AFA art collection. While this goal does mention using digital means to improve the public access to AFA art collection, it does not support a digital shift in the sector at large.

At the city level, the support of digital transformation in the arts sector is reflected in the strategy framework made by the Calgary Arts Development. The City of Calgary is currently developing a digital strategy for its local arts sector while remaining active in supporting the interactive digital media and film and TV sectors. In their *2019-2022 Strategic Framework*, Calgary Arts Development mentioned creating a digital strategy for the arts in Calgary as one of the developments of their arts focuses. The strategic framework also identified Platform Calgary (formerly known as Calgary Technologies Inc.) as one of the key partners for building an arts-led city. Platform Calgary runs a variety of programs that support technology incubation and innovation. It is also developing an Innovation Centre, which is set to open in 2021. The collaboration with technology companies is likely to lead to new opportunities and perhaps toward more digital transformation in the arts sector by associating the arts sector with Internet of Things (IoT), Augmented Reality/Virtual Reality (AR/VR), etc.

One example of the arts sector's collaboration with the interactive digital media sector is the Calgary-based artistic collective Axis-Z Media Arts (AZMA). AZMA focused on creating digital art experiences in city spaces by collaborating with visual artists and other arts professionals. AZMA has partnered with Emmedia Gallery & Production Society and Ghost River Theatre to offer training workshops on topics such as video projection mapping and multimedia design.

3.1.3   Saskatchewan

The Saskatchewan Arts Board directly supports professional artists, arts organizations, and other stakeholders such as educational institutions that offer arts-related activities through grant programs. Their programs support stakeholders as they engage in research, creation, production, and presentation to exhibition, publishing or community engagement. All their programs encourage positive social and economic impacts through the lens of community engagement and inclusion of culturally diverse groups. Digital transformation initiatives are not reflected directly in their grant programs, but the Saskatchewan Arts Board had partnered with the Canada Council for the Arts to offer "Digital Strategy Days" in 2018 in Saskatoon. These events invited artists and representatives from arts organizations around the province to learn about how digital strategies and tools can help them connect with audiences in new ways.

The Ministry of Parks, Culture and Sport in Saskatchewan has policies related to digital transformation in culture and creativity; however, some plans need to be updated to keep up with the most recent trends. In the *Moving from Reflection to Action towards a Culture Policy for Saskatchewan* document, published in 2010, technology and the internet were mentioned for their roles in changing community definition and community experience. Further, technology was also identified as a solution to generate greater public value. In the report, the participants from the communities of interest suggested the Ministry should build an interactive and searchable website for communities and organizations to plan and manage programs and marketing. The list below highlights some of the features suggested:

- One stop shopping - a centralized hub or portal - for information about arts, culture, and heritage resources to serve both the supply and demand side of the sector.

- Combine Métis, Federation of Sovereign Indigenous Nations (FSIN) databases in the arts; all indigenous arts (storytellers, literature, regalia) entertainment under one clearing house managed by a non-political body.

- Online community forums for artists and others to share ideas, resources, etc.

- A province-wide cultural map of Saskatchewan, something similar to the old Centennial website that is interactive,153 that could be used to find information on local events, such as festivals, powwows, heritage sites, etc., that would increase public accessibility and help communities coordinate activities.

The report also identified a gap in universal high-speed internet access and physical infrastructure needs, including demands for new technology facilities and hardware. For example, stable Internet connectivity is not yet consistently available across the province, and organizations need augmented reality resources for museums. Participants in the research study also expressed a need for additional training around using new technologies and strengthening the links between the digital media sector and other creative industries.

SaskCulture offers a range of funding programs to support cultural projects or artistic creation. Although there are no grants whose purpose is focused on funding digital initiatives specifically, their Museum Grant Program includes virtual museums as eligible applicants, recognizing the public access and long-term preservation capabilities that can be provided through digital mediums.

Creative Saskatchewan's marketing stream program funds certain digital activities with commercial intent. Some digital activities such as website design, social media and/or digital documentation of works are eligible expenses through this program.

Saskatchewan Interactive Media Association (SaskInteractive) is the provincial association that supports the IDM industry through education and entrepreneurship networks. SaskInteractive supports the arts sector to the extent that it helps the business aspects of an artistic creation that is produced using digital technology. Though industry events and networking resources are provided in SaskInteractive, Artists who work as digital storytellers and other web-related professionals benefit from being part of the network.

Other government agencies such as Innovation Saskachewan (IS) offer strategic direction regarding technology and innovation policy to the Government of Saskatchewan, actively expanding the development of digital technologies into a range of sectors to diversify the economy. Innovation Saskatchewan covers a range of sectors that contribute to the economy, such as oil and gas, mining, and agriculture. The arts sector is not its only strategic focus.

3.1.4   Manitoba

In 2017, the Manitoba Department of Sport, Culture and Heritage published a discussion paper titled: *Imagine. Creative Manitoba* on the "trends, issues and the current state of government support for the culture and creative industries in Manitoba."[11] The purpose of this paper was to inform the development of Manitoba's forthcoming cultural policy, which had not been updated in 30 years at the time. Digital trends and the applicability of new digital technologies are covered heavily in the document, from the increasing digitization of everyday activities to their application in art-making and their impact on the creative economy. Digital technologies are noted for their abilities to extend the possibilities of traditional art-making and to enhance works by enabling social commentaries and providing novel forms of expression for artists. Despite this recognition, and following the views of its neighbouring western and eastern provinces, the use of digital technologies is mainly positioned to strengthen the creative industries and, in particular, the IDM sector. Digital development is seen as a trend impacting all creative sectors, including music publishing, book and magazine publishing, film and media production, but not the arts.

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[11] Government of Manitoba, *Department of Sport, Culture and Heritage, Imagine. Creative Manitoba! Discussion Paper*. Retrieved from: https://www.gov.mb.ca/asset_library/en/imaginecreative/discussion-paper.pdf

The Government of Manitoba's Department of Sport, Culture and Heritage released *Our Way Forward: Manitoba's Culture Policy and Action Plan* in March 2019, which makes specific mentions to the challenges of managing ever-changing technologies. Their policy is led by 6 Guiding principles:[12]

- Contribution to the Economy
- Creativity
- Diversity and Access to Culture
- Indigenous Culture
- Partnership
- Stewardship and Accountability.

Addressing technology challenges is mentioned under both their "contribution to the economy" and "creativity" principles. The value of using new digital technologies and complementary tech skills tends to be grouped with the development of business skills, innovation, and entrepreneurship in this document – therefore viewed as a benefit to the creative economy. Despite their recognition of technology's potential value to the artistic creation process under their "creativity" principle, action steps to better use digital technologies/gain digital skills is concentrated under the "contribution to the economy" principle.

What is unique in Manitoba's recognition of technology's use in the arts is their specific mention of the potential benefits digital tools could provide to creativity in the development and access of arts. New technologies are mentioned as having influenced globalization, provided new means of production, fostered new forms of creative and artistic expression, and provided new ways for creative and cultural workers to collaborate with one another. Their framework also recognizes digital technology's creation of new business models, new distribution channels, revolutionary marketing methods, and its expansion of consumer choice and access. They make specific mention that "Manitoba's creative industries are already reaping the benefits of these changes."

The Manitoba Arts Council has shown a commitment to digital transformation, which is to be enacted internally (to improve administrative processes) and externally (to offer services). Its latest strategic plan, *Design to Thrive 2017-2022*, lists three overarching goals, namely:

1. Encourage Accessibility and Inclusion
2. Connect Creative Communities
3. Champion the Value of the Arts

These goals are then met with five operational priorities to implement changes, which include:

- Respect and Value Indigenous People and Culture
- Enhance IT Capacity and Data-Driven Design
- Connect Creative Communities
- Ensure Equitable Access
- Re-Design Website and Communications Strategy

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[12] Government of Manitoba, Department of Sport, *Culture and Heritage, Our Way Forward: Manitoba's Culture Policy and Action Plan*. Retrieved from: https://manitoba.ca/asset_library/en/culture/culture-policy-action-plan.pdf

Almost every operational priority had a digital component in its action plan. Whether through implementing new IT systems to relieve the administrative burden, using digital communication platforms more regularly to increase access to services and connect diverse arts communities or to better digital information and service delivery, there was a clear move towards embracing new digital technologies. Notably, digital technologies were seen as a way to increase and ensure equitable access to their services, in line with the priorities of Manitoba's newly released (at the time) Accessibility Act. In 2017-2018, MAC implemented an online application system and hired their first Data Analyst on staff, further signalling their commitment to making use of the possibilities afforded by innovation in the digital age.

There are agencies that specifically support creative industries in Manitoba, including Manitoba Film and Sound Development Corporation (MFM) and New Media Manitoba (NMM). One unique organization is Creative Manitoba, which has the mandate to strengthen, represent and connect Manitoba's arts and creative industries. Their programs and resources are therefore catered to both professional artists and creative entrepreneurs. Their website houses a page dedicated to sharing resources for digital artists and IDM professionals. Creative Manitoba is unique in its formal recognition of the inherent similarities of the products and processes of arts and culture and the creative industries.

The recognition of digital technology's significance in art-making appears to be a growing theme in Manitoba's policy and support mechanisms. Based on a review of provincial policy documents, strategies, and sector support organizations, it does appear that Manitoba more commonly equates the cultural and creative sectors together and views digital transformation as a potentially beneficial, though somewhat a disruptive trend in both. Despite this overall recognition, the focus for digital transformation policies remains to benefit the creative industries as the products of these sectors have seen increasing economic value in today's digital global marketplace.

3.1.5   Ontario

Shortly after Canada Council for the Arts released the *Arts in a Digital World* report in 2016, the Government of Ontario published the province's first-ever *Culture Strategy*. The strategy was informed by an extensive set of consultations carried out in 2015 with Ontarians who contribute to the development and appreciation of arts and culture in the province. Through these consultations, Ontarians identified diversity and digital technology to be prominent influences in the culture sector that are expected to impact artists, arts organizations, and institutions in the future. As such, digital priorities, in theory, are woven into most of the commitments of the strategy. The strategy focuses on four key goals:

1.   Promote cultural engagement and inclusion

2.   Strengthen culture in communities

3.   Fuel the creative economy

4.   Promote the value of arts through government

It is likely that digital use commitments are most prominent in goal 3, as digital arts are recognized as having the potential to generate economic benefits through the products of the creative industries. Note, however, that the digital use commitments are bound into the creative industries, not the arts. For example, some such commitments listed in goal 3 of Ontario's Culture Strategy include working with IDM companies to build a globally competitive industry in Ontario by encouraging innovation in the next generation of interactive entertainment (listed as video games, augmented and virtual realities, mobile content and cross-platform storytelling) and increasing awareness and uptake of the

Canada-Ontario Job Grant among employers in the culture sector to assist them in developing their workforces through employer-led digital skills and training.

Most of the support for digital product development in Ontario, therefore, comes from the industrial development agency in the creative sector, namely Ontario Creates. That agency offers product development funding through sector-specific programs (i.e. IDM, Film/TV, Book Publishing) and labour-based tax credits.

Ontario's Culture Strategy makes statements that signify a commitment to developing the culture sector, but concrete plans are sparsely mentioned. Commitments are made broadly, such as "creating opportunities for workers in the culture sector to enhance their technical and business skills training," but no specific actions or events are planned to directly achieve this aim. The lack of concrete commitments, at least as could be found in the research for this update, makes it difficult to measure the progress of the strategy to date.

A perusal of the annual reports of the Ontario Arts Council since 2016 shows no mention of digital initiatives for the arts constituencies they serve. Hence, while Ontario has a very robust set of incentives for the creative industries to address challenges and opportunities from the growth in the use of digital technologies, there seems to be very little apparent digital transformation focus in the provincial arts sector.

3.1.6   Quebec

The Government of Quebec has been very active in advancing the digital transformation of the arts sector through its [Digital Cultural Plan for Québec](#) (Plan culturel numérique du Québec). The Digital Cultural plan was the result of a consultation process that started in 2010, coordinated by the province's arts council Conseil des arts et des lettres du Québec (CALQ) and Société de développement des entreprises culturelles (SODEC), the public agency in charge of the development of the creative industries in Quebec. The Plan was released in 2014 and later aligned with the province's *Action Plan for the Digital Economy* (Plan d'action en économie numérique) in 2017. The Digital Cultural Plan unlocked $110 million earmarked over seven years, focusing on two themes:

- Support and adoption: support and partner with the cultural sector in the acquisition, mastering and dissemination of new skills for the digital world

- Discoverability and dissemination: foster discoverability and dissemination of cultural works in the digital environment.

Beyond these two core themes in the Digital Cultural Plan, the Government of Quebec has taken more than 120 measures since 2014 that touch one or several of the following themes:

- Experimentation, research and development: innovation and collaboration with the private and academic sectors.

- Infrastructure and equipment: update equipment, infrastructure, and networks.

- International: dissemination of Quebec works abroad and collaboration with international partners.

- Youth and education: youth outreach and creation of creative educational content.

- Heritage: preservation of Quebec heritage and digital archiving.

- Programs, policies, and directions: redesign funding programs, action plans and policies according to the digital context.

The description on the online platform for Quebec's Digital Cultural Plan indicates that 30 measures have already been achieved. Recent examples of initiatives still in the implementation phase include:

- **Montreal Museum of Fine Arts created Le Lab MBAM**, an incubator for digital mediation in Quebec.[13] Financed by the Ministry of Culture and Communications, Le Lab MBAM explores three themes. First, research is conducted on the needs and expectations of visitors and audiences. Second, residencies and research projects study the challenges of digital mediation. Finally, Le Lab MBAM is a place to experiment with new digital tools, technologies and activities. Le Lab MBAM is open to researchers, arts professionals (e.g., curators, artists), but also to audiences and technology enthusiasts, who can submit ideas and research subjects.

- The Digital Cultural Plan enabled the creation of a pole of expertise in the use of big data for arts and culture organizations. The **Synapse C initiative** was born from the concerted effort of arts and culture stakeholders and the private and public sectors.[14] This not-for-profit created in 2019 is supported by Canadian Heritage ($1.15 million through the Canada Cultural Investment Fund), the provincial Ministry of Economy and Innovation ($600 000) and Quebec's Ministry of Culture and Communications ($450 000). The objective of Synapse C is to help the cultural sector turn a massive amount of data into valuable, actionable information. Through the pooling of data, resources and knowledge, Synapse C positions itself as a centre of expertise in and outside of Quebec.

- The not-for-profit, "**Culture pour tous**" (Culture for all), was also involved in the Digital Cultural Plan. Its mission is to promote the cultural sector as a factor of development through outreach initiatives, awareness programs and advocacy. "Culture pour tous" receives most of its funding from the Ministry of Culture and Communications, supplemented by revenue from its own activities. The non-profit led three initiatives under the Digital Cultural Plan, including the creation of an incubator to support initiatives that facilitate access and participation in the arts (le Lab Culturel), digital editions of the Culture Days and an exploratory research on emerging sources of funding for digital cultural initiatives.

- **Québec Numérique** now administers Culture/NumériQC, a project designed to create and implement mechanisms for guidance in respect of digital cultural development that will benefit the whole sector of arts, culture and communications.[15] Practically, Culture/NumériQC accompanies organizations, artists and arts professionals in the exploration and implementation of relevant digital solutions.

- *Le Réseau ADN* **(The DNA Network)**[16] was created in 2019 and is a network of 45 agents, experts in digital cultural development who ensure the coordination, collaboration, and promotion within the cultural ecosystem across the province. This community of agents not only develop and reinforce partnerships between organizations throughout Quebec, they also have a mission to monitor trends and share digital cultural knowledge, to promote training and professional development and to facilitate the development of structuring, collective digital cultural projects.

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[13] Montreal Museum of Fine Arts website. Retrieved from: https://www.mbam.qc.ca/education-art-therapie/laboratoire-de-mediation-numerique/

[14] Synapse C. Retrieved from: https://synapsec.ca/

[15] Culture/NumériQC. Retrieved from: http://culturenumeriqc.qcnum.com/

[16] *Réseau des agents de développement numérique.* Retrieved from: http://www.reseauadn.ca/

The *Digital Culture Plan for Québec* is still in effect, with a termination date set for 2021. However, the revamped provincial cultural policy suggests that it will be extended until 2023.

Indeed, another round of consultation was launched in 2016 to lay out the foundation of a new cultural action plan for the province. In a context of constantly evolving communication means, emerging production and distribution platforms, intensified globalization, and mobility of people, the 2018-2023 cultural action plan aims to equip the Government of Quebec with a framework that will help arts, culture and creative industries stakeholders navigate this environment. Four reports emanated from the consultation process, proposing several recommendations for the new Quebec cultural policy.[17]

The Ministry of Culture and Communication released its revamped cultural plan, [Culture Everywhere](#) (Partout, la culture) in 2018. Four directions will guide the Ministry's and partner organizations' actions over the 2018-2023 period:

1. support individual and collective development through culture,

2. foster an environment favourable to creation and dissemination,

3. spur relationships between the cultural sector and territories, and

4. boost the impact of culture and communications on the development of the province.

Under these four directions, the plan details 41 initiatives spread over 23 objectives. Moreover, the plan identifies lead organizations and partner stakeholders for every measure. In addition to the Ministry of Culture and Communications, the plan involves 36 other ministries, secretariats and public commissions (e.g., Ministry of Justice, Ministry of Finance, Ministry of Tourism, Quebec's Youth Secretariat) as well as ten arts and creative industries organizations (e.g., SODEC, *Conseil des* Arts *et des Lettres du Québec,* Montreal Museum of Fine Arts (*Musée des beaux-arts de Montréal),* National Library and Archives of Quebec *(Bibliothèque et Archives nationales du Québec)*). Overall, more than $600 million will be engaged in this cultural action plan over the five-year period.

The Quebec Cultural Action Plan for 2018-2023 reinforced the 2014 Digital Cultural Plan and added a digital dimension to most strategic directions and objectives. For instance, objectives 4.5 and 4.6 indicate a willingness to advance digital skills and improve expertise with data collection, processing, and analysis (direction "boost the impact of the cultural sector"). More particularly, the Action Plan's measure #41 seeks to extend the Digital Cultural Plan beyond its original 2021 termination date, with an additional allocation of $15 million. The renewed commitment to support Quebec's arts and culture sector.

Overall, Quebec established favourable conditions to ease the digital transformation for the cultural sector. With a transversal approach developed in consultation with stakeholders and considering the ever-changing environment, Quebec's approach to digital is among the most-advanced strategies reviewed. Considering the impact of digital technologies on cultural stakeholders as early as 2010, Quebec has designed an ambitious, forward-looking strategy and renewal of its commitment through the 2018-2023 cultural plan.

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[17] See consultation archives at https://www.mcc.gouv.qc.ca/index.php?id=5795

3.1.7   Canada's Atlantic Provinces

Digital transformation in most of Canada's Atlantic provincial arts sectors is pushed forward predominantly through projects initiated by individual artists, arts companies, and organizations, as opposed to stimulated by their respective provincial ministries and arts councils.

Nova Scotia

The Government of Nova Scotia's Culture Action Plan mentions its ageing facilities, lack of access to technology and lack of support for infrastructure as inhibiting factors to the growth of local museums via digital tools. Despite this realization of impoverished assets, Nova Scotia's current Cultural Action Plan makes no specific commitments or goals that relate to improving the provincial arts sector's lack of digital uptake.

Digital uptake appears to be flourishing in other parts of Nova Scotia's economy. Digital Nova Scotia is the province's ICT and digital technology sector industry association, which provides networking, training, advocacy, and career support to its members. While their resources do not appear to be curated for the cultural workforce, Digital Nova Scotia engages in projects that offer basic skills training to the wider provincial workforce through their Tech Shy to Tech Savvy program.

Newfoundland and Labrador

Similarly, Newfoundland and Labrador's Cultural Action Plan makes no commitments or references to adopting and making use of novel digital technologies in their regional arts sector.

Despite their lack of digital arts planning, Newfoundland and Labrador hosts a digital arts festival every year. The Unscripted Twillingate Digital Arts Festival was first launched in 2015 as Atlantic Canada's first digital arts festival. Spanning four days each year, this festival serves as a forum for innovative artists to learn, explore, share, and create new digital artworks together. However, an initiative that promotes digital art is not the same as support for the digital transformation of the arts.

New technologies and art forms are explored and showcased each year, and individuals who have created names for themselves in the new digital world, including social media influencers, are recognized as part of the evolving digital art ecosystem. This festival considers digital technology's influence on both the arts and culture sector and the creative industries by showcasing traditional artists (i.e. visual artists) and media artists (i.e. photographers, filmmakers, musicians) who have integrated digital technologies and practices into the creation and presentation of their respective works.

New Brunswick

The digital arts thought leader in Atlantic Canada is New Brunswick. In contrast to their Atlantic neighbours, the Government of New Brunswick's Cultural Policy document, Creative Futures, makes commitments to utilizing digital tools throughout. In language, at least, it exemplifies the government's commitment to technology exploration. It was published in 2014 and was to guide the province's arts development through 2019. Five overarching strategies were identified:

1. Establish an Implementation Plan and Accountability Frameworks

2. Work Through Partnerships and Collaborations

3. Provide Equitable Funding Models for the Province

4. Use Digital Resources and Technology

5. Identify Innovative Support Opportunities

These strategies were to be carried out in renewed cultural policy commitments that focused on four overall directions:

- Culture in Everyday Life

- Artists, Arts Organizations and Cultural Professionals

- Creating, Conserving, and Celebrating our Heritage

- Culture and the Economy

Digital technologies are recognized as an arts and culture enabler in this policy document. The potential of improving the delivery of arts and culture services by digital means is identified. New Brunswick's consistent recognition of digital technology throughout its strategic objectives make them stick out from the other Atlantic provinces, even though they make no specific digital transformation focused commitments.

Prince Edward Island

Prince Edward Island released its Cultural Policy document *Cultivating Growth: A Five-Year Action Plan for Culture and Creative Industries* in November 2017. Digital technologies are mentioned within the document as providing a new form of expression to the cultural and creative industries. The document recognizes artists as also being a part of the creative industries; the products of both artists and creative entrepreneurs are recognized as coming about through artistic processes and pursuits. While the benefits of using digital technologies are mentioned in the document, little action is planned around exploiting these benefits to address challenges or engage in more transformative activities in the culture sector.

Creative PEI is the province's "creative sector catalyst." This non-profit organization provides support to the culture sector by providing resources to the cultural workforce, specifically professionals in the visual arts, crafts, design, theatre, dance, writing and publishing, libraries, music, museums and heritage, film and video game sectors. In its wide mandate to support both cultural and creative professionals, Creative PEI is unique in its definition and approach to the culture sector. However, Creative PEI uses a fairly traditional approach to support the culture sector by offering digital training programs through targeted sector-specific workshops on an as-needed basis and providing links to tools for workers to explore careers in the cultural and creative industries through their website.

Overall, it does not appear that there is a heavy digital focus in Prince Edward Island's culture sector at present. The provincial government's policy documents lack specific recognition of digital technology's impact on arts and culture. Commitments to leverage digital technologies in the arts are quite spotty across the province.

3.1.8   Yukon

On a strategic level, the Yukon government's *What We Heard: Creative and Cultural Industries Strategy* reflects the demand of leveraging digital technologies that was noted through public engagements held to inform the development of a Creative and Cultural Industries Strategy (CCIS). The demand for digital technologies is reflected in the following aspects:

- reliable and affordable connectivity, accessible funding information in digital formats;

- online appearance for Yukon products and experiences;

- a centralized database for sharing resources such as gear, licenses, and software;

- the need for collections and programs to recognize and accommodate digital media as art forms.

The report also summarizes technology gaps that Yukon's creativity and cultural industries have - using technology as an art form, centralized databases, equipment, internet (high priority), impacts and opportunities, improve Yukon government's website, and types of platforms.

On a program level, the Yukon government's support for digital transformation in the arts sector is reflected in a few programs, which have become more accessible during the COVID-19 pandemic. The Touring Artist Fund supports both physical touring within Yukon and online "tours." However, this new digital component is not fully reflected in the eligible expenses of the fund. Eligible expense items currently include the costs associated with physical touring, such as travel and accommodation, insurance, cargo, and crating, etc., whereas costs related to digitizing works, such as obtaining copyright protection for digital touring, are not specified. The Cultural Industries Training Fund (CITF) offered by the Yukon government was originally designed to support training for jobs that enable artists' work to reach the public. The fund now gives preference to training that gives people the opportunity to present works digitally, encouraging the development of digital training for jobs that help artistic works to reach the public.

The Yukon Government provided special funding for arts-related initiatives in light of COVID-19 pandemic impacts. The special funding is adapted from the previous "On Yukon Time" program to encourage initiatives that respond to the crisis and/or express Yukon arts or culture in alternative means while physical gathering cannot occur. Though the special funding does not specify that support is catered towards digital initiatives, it is likely that the products of these funded initiatives will be disseminated via digital means.

The Yukon Arts Centre (YAC) plans to launch the first digitized collection of artworks in Yukon. The Director of Visual Arts at YAC emphasized the significance of the move by pointing out that it not only fills the gap for the rest of Canada but also increases exposure for Yukon artists to be included in other museums' and countries' collections.

Notably, the Digital Arts Nation project chaired by Atlantic Presenters Association was funded by Digital Strategy Fund as a national digital literacy initiative. The project is managed by Strategic Moves Consultancy in Yukon and joined by other partners from Canadian territories such as N3 / Yukon Arts Centre and Northern Arts and Cultural Centre (NWT). The initiative supports artists and workers in the performing arts, visual arts and other artistic and cultural pursuits by offering them workshops that are designed to demystify the digital world and equip them with the knowledge to upgrade their digital presence and business models. The workshops teach how to use digital tools to best effect, including semantic web / structured data, linked data and the like. The workshops include hands-on tutorials of practical demonstrations of the differences adopting technology tools can make. For example, _why add structured data to your website_ shows the A/B testing results on how a theatre's event information will be presented based on the fully structured metadata applied

3.1.9   Northwest Territories

In 2020, the Government of Northwest Territories published its _Arts Strategy Engagement: What We Heard Report_ alongside their _2020-2030 NWT Arts Strategy and Action Plan_. In the report, some of the emerging themes touched upon the demand for digital access to content. For example, some details in the topics identified during Phase II include: "Ensure that virtual arts education is accessible to residents of all northern communities" and "Virtual art education, workshops and professional development." As some of the findings are from a survey that was promoted online and on the territorial government's website, there might be demand for other types of digital access that were not documented in the survey engagement.

The Northwest Territories (NWT) Arts Program has been an on-going marketing initiative founded by the Industry, Tourism and Investment department of the NWT government. As a marketing initiative,

the NWT Arts Program provides opportunities for artists to participate in the digital economy by offering branding, marketing, and online search directories on their website. According to the *Programs and Services in Support of Northwest Territories Arts and Fine Crafts Report*, the NWT Arts Program provides support to meet digital needs in a few ways. For example, the Content Collection Project gathers together digital images, videos, and interviews from registered artists in the program. Through their effort in collecting digital content for marketing campaigns, the NWT Arts Program purchased cameras to help artists digitize their artwork. Other online initiatives they offer include a digital archive, an arts marketing inventory, and the NWT Arts Website.

Other organizations have launched initiatives to increase digital capacity in NWT since 2016, which have had an indirect impact on the NWT's arts sector digital transformation. Aurora College established the DigitalNWT initiative to train local instructors and create digital literacy curricula in Northern communities. The project is being rolled out from 2018-2020 through the support of various stakeholders, including Innovation, Science and Economic Development (ISED) Canada.

3.1.10 Nunavut

The 2014 report [Needs Assessment: Arts Administration Skills and Resources in Nunavut's Arts and Culture Sector](#), commissioned by the Nunavut Government and Canada Council for the Arts, has pointed out the impact of digital technology on Nunavut's cultural value chain and their related sales, marketing, and distribution channels. Nunavut-based artists and arts organizations have recognized the importance of developing digital skills to further their sales and marketing participation. Online and cross-platform digital skills development was identified as a needed skill in this report.

More recently, there have been some non-profit organizations that are actively improving the digital literacy of Nunavut's arts and culture sector. Qaqqiavvut Is an organization in Nunavut that trains and promotes Inuit performing artists. It is working to build Qaggiq, a Nunavut performing arts and cultural learning hub. In the *Qaqqiavuut! Inuit Performing Arts 2018-2019 Report,* Qaqqiavuut mentioned its efforts to improve digital learning for Inuit artists under the support of the Canada Council for the Arts and the Canadian Federal Government. "Master Classes" is a project that systematically produces digital content with Inuit performing artists and elders.

The Pisiit app is another project where an interactive digital application is developed to teach traditional Inuit music (pisiit). This app uses cutting edge technology, enabling interactive learning without having to access the internet, addressing the issue of lack of connectivity in remote communities. "Technical Skills Mentorship" is another program through which Inuit artists are mentored by tech experts to learn new skills such as video editing, digital design, and sound recording.

Pinnguaq is another Nunavut-originated technology and training non-profit that incorporates STEAM (Science, Technology, Engineering, Arts, Math) into unique learning applications. These learning applications are developed in the form of digital curriculum and gaming apps that integrates arts creation from Indigenous artists and musicians. To address the lack of access to devices, Pinnguaq works with Computer for Success Nunavut (CFSN) to provide free technology tools (laptops and other devices), addressing the lack of hardware access that is an issue in many Nunavut students' lives. Pinnguaq is also a lead for the Inuit Arts Marketing and Distribution initiative funded by the Canada Council for the Arts Digital Strategy Fund. This initiative is designed to improve Inuit arts distribution, using the infrastructure (maker space hubs) it is building as a result of a $10 million Smart Cities grant.

Some Nunavut museums have made efforts to take their collections online during the pandemic. Social media has become the first technology they turn to. The Nunatta Sunakkutaangit Museum started putting displays on Instagram and Facebook, promoting contests and cross-promoting their

content with other arts organizations. Aside from social media platforms, their website was also updated to accommodate for putting collections online, according to the Nunatisao News[18].

3.2   International Responses

Australia, Belgium, France, the United Kingdom, and the United States of America were identified as leading jurisdictions pioneering the adoption and use of new digital technologies in the arts in the 2016 *Arts in a Digital World* Report. Their most recent efforts within this domain were profiled once again to understand their recent progress. The United States' digital transformation efforts are notably propelled forward by the efforts of the commercial sector; meanwhile, the other jurisdictions profiled feature extensive and detailed federal public policies that carve the path to digital transformation in the countries' arts sectors.

3.2.1   Australia

The Corporate Plan 2019-2023[19] of the Australia Council for the Arts and the Australian government recognizes that universal access supports digital mobility of Australian arts and creativity. The strategy contains four pillars in supporting digital applications in the arts:

1. Build the knowledge and evidence base of new developments in creating, distributing, and experiencing art.

2. Enable and support work that is accessible through digital formats.

3. Explore opportunities for collaboration and co-development of art forms that employ new technologies, including virtual, augmented and mixed realities.

4. Facilitate stronger relationships between film, radio and broadcast organizations and the cultural sector

This five-year strategy reflects the Australian government's strategic priorities to respond to the changing landscape of Australian arts and creativity in the digital world. In terms of programs, Australia's Council for the Arts offers grants and programs to enable digital transformation in aspects of business model transformation and strategy development. "The Future Form: Transforming Arts Business Models" is a leadership program that supports small to medium arts organizations to transform and innovate their core business model. The program has a four-phase process: discover, ideate, experiment, and evolve. Through individual coaching sessions, online learning sessions and residential labs, participants will get knowledge and coaching from facilitators that have expertise in technology, data and digital business environment.

Another program, *Visual Arts and Craft Strategy – National Priorities,* is a package of funding and support as part of the Australia Council's *Visual Arts and Craft Strategy (VACS) policy framework 2021-2024*[20]. The policy framework is a formal agreement established between the Commonwealth, State

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[18] Nunatsiao New, *Nunavut museums go digital to cope with pandemic*. Retrieved from:
https://nunatsiaq.com/stories/article/nunavut-museums-go-digital-to-cope-with-pandemic/

[19] Australia Council for the Arts, *Creativity Connects Us*, Retrieved from:
https://www.australiacouncil.gov.au/workspace/uploads/files/australia-council-corporate-pl-5d68738684ece.pdf

[20] Australia Council for the Arts, *Visual Arts and Craft Strategy (VACS)*. Retrieved from:
https://www.australiacouncil.gov.au/programs-and-resources/visual-arts-and-craft-strategy-vacs/

and Territory Governments to support the Australian visual arts and craft sector by direct funding. The objectives are to:

- Deepen audience engagement;
- Expand markets and enhance international connections;
- Ensure opportunities for Australian contemporary visual artists;
- Provide professional support for Aboriginal and Torres Strait Islander artists; and,
- Build stronger, more resilient visual arts and craft organizations.

Digital development is reflected in the "deepen audience engagement" objective. The Australia Council encourages new approaches to engage audiences and market development, including using digital technologies and online platforms.

In 2017, the Australian government announced the development of a national Digital Economy Strategy and started a consultation process. The Australian Council for the Arts' published response addresses two sections of the national Digital Economy Strategy Consultation Paper:

- Our digital readiness, and
- Empowering all Australians through digital skills and inclusion.

The first section, digital readiness, points out the prevalence of digital technology's application in Australians endeavour to engage, create, experience, explore and generate income through the arts. For example, transaction technologies like blockchain are driving new business structures and income opportunities.

The second section, "empowering all Australians through digital skills and inclusion," presents three digital opportunities in arts and culture. The first opportunity emphasizes the importance of equipping Australian artists with new skills for the digital economy and its corresponding jobs. The second opportunity presents the role of arts in bridging the digital divide and boosting social inclusion. The third opportunity points out that, through increased facilitation through digital technologies, arts will reinforce the positive impact on the cultural practices and social relationships of Australians.

3.2.2   Belgium

As indicated in the 2016 report, Francophone Belgium followed the path of Quebec with regard to designing a cultural digital strategy. The consultation (*Bouger les lignes*, Move the lines) started in 2015 and led to a series of recommendations to the Minister of Culture. It was followed by consultation around a possible Digital Cultural Plan.[21]

Based on all recommendations developed by the different missions established, the Ministry laid out a 40-point action plan for a new cultural policy in Francophone Belgium released in 2017.[22] Action #30 specifically indicates that creating a Digital Cultural Plan is a priority, but digital opportunities and challenges are important considerations disseminated throughout the action plan. For instance,

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[21] *Bouger les lignes*. Retrieved from: http://www.laconcertation-asbl.org/IMG/pdf/2016-09_plan_culturel_nume_rique_synthe_se_finale.pdf

[22] Bouger les lignes -40-point action plan for a new cultural policy https://ds1.static.rtbf.be/uploader/pdf/2/0/a/rtbfinfo_e4ba8787668cdced9401a416da387def.pdf

Action #35 aims at supporting the development of cultural digital platforms and Action #31 seeks to create digital public spaces in arts centres across the country.

While a digital cultural plan has not yet been created, but the broader francophone cultural policy plan reached its end in 2019.[23] A new plan is in development and will likely include elements from the consultation and subsequent action plan. The general policy plan for the region for 2019-2024[24] simply states that the Government commits to reforms and ongoing support for the cultural sector without giving specific actions.

This lack of action does not mean that Francophone Belgium ignored the impact of digital technologies on the arts and culture in the last few years. Note the following actions.

- **Conservation and Operations of Heritage** (Plan de Préservation et d'Exploitation des Patrimoines): this plan, adopted in 2007, has two objectives (i) the conservation of collections and (ii) the dissemination of francophone Belgian works. The Plan supports the digitization of collections across the region, then gathered on the platform numeriques.be. The plan's website also offers best practices for a successful digitization campaign. The plan is still in action in 2020.

- **Digital Arts Unit** (Cellule arts numériques): this department of the Ministry for Culture and Audiovisual supports the development, creation, production, promotion and dissemination of digital arts and grants to research projects, events or capacity building initiatives in the digital arts space.

- **CréaNum**: this online platform created by the Ministry's mission for digitization and the Cinémathèque de la FW-B compiles works that can be reused, remixed, reimagined.

- **ARTECH**: this program is administered by Technocité, the regional hub for IT and creative and cultural industries and supported by the Ministry's mission for digital transition, offers workshops and training courses to help creative entrepreneurs, individuals and arts organization get familiar with digital tools.

Taking the example of the Quebec approach to digital transformation that proved effective, Belgium has established the foundation of an actionable Digital Cultural Plan. While the specifics of this plan still need to be determined, it shows that the Government is committed to addressing the challenge and opportunity of digital technology in the arts and culture sector.

3.2.3 France

In France, the Ministry of Culture and Communications defines the strategic guidelines with regards to the digital transformation for arts organizations. In particular, the Ministry's Department of Digital Innovation developed the National Program for Digitization and Dissemination of Cultural Content in 2018. The eligibility rules are rather broad: cities, associations, arts organizations, public entities, post-secondary institutions, or companies can apply for grant funding to support an initiative that facilitates the online dissemination and re-use of cultural and heritage content. An emphasis is put on

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[23] *Politique Culture*. Retrieved from: http://www.culture.be/index.php?id=12931

[24] FÉDÉRATION WALLONIE-BRUXELLES | DÉCLARATION DE POLITIQUE 2019-2024. Retrieved from: http://www.federation-wallonie-bruxelles.be/index.php?eID=tx_nawsecuredl&u=0&g=0&hash=d46c9f4830a54be6e1cd75d62c91dbd4bfd19b73&file=fileadmin/sites/portail/uploads/Illustrations_documents_images/A._A_propos_de_la_Federation/3._Gouvernement/DPC2019-2024.pdf

usage, on the distinctiveness of the underlying innovation and on the use of open data and metadata. The PNV is administered by regions according to the strategy laid out by the Ministry (four pilot regions in 2018-2019, extended to all regions in 2019-2020). The program was to be evaluated in 2020.

The Ministry also instigated several initiatives to foster partnerships and knowledge sharing between arts organizations. For instance, the platform Joconde gathers resources and best-practices to help arts organization digitize their collection. It also acts as a database, a collaborative catalogue of all works digitized by participating arts organizations in France. Since its inception in 2012, *Joconde* is administered by the Ministry of Culture and Communications (Department of documentation, service of French museums) but relies on the voluntary participation of museums across the country. The platform is just one of many websites established by the Ministry to facilitate collaboration and knowledge sharing. A blog *Joconde* shares the latest update of the platforms and offers articles on the latest digital trends. Open Platform for Heritage (POP) is a project under construction led by the Ministry that will consolidate the data from *Joconde* (arts and culture), *Memoire* (photographs), *Merimee* (architecture) and *Plissy* (objects and furniture). In other words, *Joconde* will progressively give way to the more ambitious, user-friendly and exhaustive POP.

Platforms like the upcoming POP supplement sectoral initiative such as Club Innovation & Culture France (CLIC). Managed by a steering committee and Sinapses Conseils, CLIC closely monitors technological developments about arts, culture and heritage organizations. CLIC regularly releases articles, reports and organizes panels and conferences on a wide range of issues such as collection digitization, new media, social media, mobile services and online ticketing. Created in 2009, CLIC is now the main platform for collaboration and knowledge and information sharing in the francophone community of arts, culture and heritage organizations.

In addition to the national strategy articulated by the Ministry, regions have also implemented plans and programs to support local arts in the digital world. Region Auvergne-Rhône-Alpes is a great example, as it unveiled an ambitious plan to become the European Silicon Valley: 2017-2021 Strategic Roadmap for Auvergne-Rhone-Alpes. This roadmap encompasses all aspects of the economy, including the arts, culture and heritage. As such, the region has created a fund to support the creation of digital arts (*Fonds SCAN,* SCAN Fund).[25] Individuals, collective, students or arts organizations can apply for funding targeting the production of works using digital tools and techniques. Additionally, the region supports heritage organizations and museums with the development of digital mediation tools and digitization projects up to €40,000 through its Heritage and Digital call for proposals.[26] While these programs are useful mechanisms supporting arts organizations and artist in their digital transition, there is no clearly structured digital cultural plan that would reinforce digital tools in an arts creative context in Auvergne-Rhône-Alpes: the cultural sector is just an aspect of a broader digital strategy which primarily focuses on the economic development of the region.

Finally, the CNC (*Centre national du cinéma et de l'image animée,* National Centre for Cinema and the Moving Image) initiated the DICRéAM (*Dispositif d'aide pour la création artistique multimédia et numérique,* Support mechanism for multimedia and digital creation) in 2002 to advance the use of

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[25] *Fonds de soutien à la création artistique numérique - Fonds [SCAN]*. Retrieved from : https://www.auvergnerhonealpes.fr/aide/2/89-fonds-de-soutien-a-la-creation-artistique-numerique-fonds-scan-culture-patrimoine.htm

[26] *Patrimoine et numérique*. Retrieved from: https://www.auvergnerhonealpes.fr/aide/249/289-patrimoine-et-numerique-culture-patrimoine.htm

digital tools and techniques across all artistic practices.[27] The program is jointly administered by the CNC, the *Centre National du Livre* (National Centre for Books) and three divisions in the Ministry of Culture. The DICRéAM offers three streams supporting the development, production, and presentation/dissemination of works. Production grant and development grant cannot be combined, and the grant cannot represent more than 75% of the project budget.

In 2018, the DICRéAM supported 107 projects for a total of €973,000 (CA$1.504 million), which brings the average amount awarded to €23,000 (CA$35,500) per project. 41% of these projects were visual arts works, the remaining projects being dance, theatre, music or audiovisual projects. 70% of the DICRéAM's funds are distributed by the CNC (which itself receives 85% of its budget from taxes on movie tickets, on TV broadcasters, and VOD services), while the remaining 30% is provided by the other partners (i.e., *Centre du Livre* and other Ministry divisions). Note that the DICRéAM only supports projects where the outcome is an artistic work and is not intended to help arts organizations with the digital transition.

3.2.4   The United Kingdom

The United Kingdom continues to make large investments in the emerging digital environment of arts and culture. The Government of the United Kingdom's Department of Culture, Media and Sport released their long-awaited UK Digital Strategy in March 2017. This document posited a framework through which the UK's digital economy would be grown and stimulated. The strategy has seven strands, namely:[28]

- Connectivity – building world-class digital infrastructure for the UK;

- Skills and inclusion – giving everyone access to the digital skills they need;

- The digital sectors – making the UK the best place to start and grow a digital business;

- The wider economy – helping every British business become a digital business;

- Cyberspace – making the UK the safest place in the world to live and work online;

- Digital government – maintaining the UK government as a world leader in serving its citizens online; and,

- The data economy – unlocking the power of data in the UK economy and improving public confidence in its use.

Though some of these strands apply more to certain industries over others, the strategy is intended to be used by all stakeholders in the UK's economy in all sectors – with nothing in this strategy that singles out the arts for special attention. It was created, in part, to build on the foundation laid by the UK government's Industrial Strategy, released in January 2017. Digital technologies, therefore, continue to be considered horizontally in the UK as a facet that affects all industries.

A few months after releasing their ambitious UK Digital Strategy 2017-2020, the UK Government renamed the Department of Culture, Media and Sport to the Department of Digital, Culture, Media

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[27] Dispositif pour la Création Artistique Multimédia et Numérique (DICRéAM). Retrieved from: https://www.cnc.fr/professionnels/aides-et-financements/creation-numerique/dispositif-pour-la-creation-artistique-multimedia-et-numerique-dicream_191324

[28] Department of Digital, Culture, Media and Sport, *UK Digital Strategy,* Retrieved from: https://www.gov.uk/government/publications/uk-digital-strategy/uk-digital-strategy#ministerial-foreword

and Sport (DCMS). It was done in part to reflect the departments' ongoing focus on stimulating the digital environment and bolstering the reach and impact of the UK's creative and cultural industries. The addition of digital responsibilities to the DCMS' remit represents the bold investments and plans the UK had intended for the advent of the digital world.

In 2018, the Department of Digital, Culture, Media and Sport released Culture is Digital, a policy paper outlining the DCMS's specific commitment to utilizing new digital technologies to strengthen the arts and culture sector. The policies laid out in this paper are centred around three key themes: [29]

1. Audiences – using digital technologies for audience engagement
2. Skills and the digital capability of arts organizations
3. Future strategy – unleashing the creative potential of technology through forward planning

These three themes are interwoven within three policy priorities, namely:

1. Digital infrastructure for Culture
2. Innovation
3. Collaboration and partnerships

Through this policy paper, the DCMS made 13 commitments to be attained by 2020 in partnership with both public and private sector players, including Nesta, the BBC, the Space and the Audience Agency.

The policy initiatives committed to in the *Culture is Digital* paper aimed to equip arts organizations with the required knowledge, tools, and know-how to implement digital technologies and insights into their organizational strategies.

- **A metrics framework and diagnosis tool** - One such commitment was carried out by The Audience Agency in partnership with The Space, Nesta and various other arts organization collaborators. The result was published a metrics framework and diagnosis tool[30] which helps arts organizations determine which metrics they should use to track the progress of their strategic goals. The package features a prototype of an interactive diagnosis tool that asks individuals a series of questions that allow it to determine a curated selection of relevant metrics to be measured to determine if your organization is successfully achieving its goals, as well as a spreadsheet with the complete list of metrics relevant to the arts sector.

- **Digital Culture Compass** - Another commitment was the development of a digital toolkit, which was released in December 2019 as the Digital Culture Compass. This toolkit consists of two elements: A Digital Charter housing digital best practices and an agreement for arts organizations to sign, legitimizing their commitment to digital transformation, as well as Tracker Tool that assesses organizations' digital goals and makes suggestions for future strategic areas of focus.

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[29] Department of Digital, Culture, Media and Sport, *Culture is Digital 2018,* Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/686725/Culture_is_Digital_Executive_summary__1_.pdf

[30] Audience Agency, *Metrics Framework*, Retrieved from: https://www.theaudienceagency.org/news/a-new-prototype-app-to-gauge-your-organisations-digital-competence-and-advise-on-how-to-improve-it

The Arts Council England (ACE) and the National Lottery Heritage Fund have been prominent contributors to the UK's digital arts policies. They held an important role in the *Culture is Digital* commitments.

- **Digital Culture Network** - One such commitment included the Arts Council England's development of a [Digital Culture Network](#), which they would invest £1.1m over two years to create. This network is comprised of tech champions who provide digital support, training and mentorship to arts organizations across England.[31]

- **Digital capacity building -** When *Culture is Digital* was released, the National Lottery Heritage Fund was to commit £1m to a digital campaign running over two years that would fund projects that improved the arts sector's digital capacity. Since then, they have committed £4m to digital skills, enterprise development and business support programs. They recently launched a new [Digital Skills for Heritage](#) initiative. Digital Skills for Heritage is an advocacy initiative that aims to: promote digital skills and leadership and directly support digital skills development. [32]

Since 2013, NESTA, in partnership with Digital Culture, MTM, and Arts Council England, conducted research to keep track of how arts and culture organizations are making use of digital technologies. Each year, hundreds of arts organizations across England take part in this Digital Culture survey. Results are collected, analyzed, and then published in a report that is shared with the public to facilitate learning and discussion around the course of digital transformation in the arts.

In the 2016 *Arts in a Digital World* report by Nordicity, [Digital Culture 2015](#) was reviewed. The analysis in *Digital Culture 2015* focused primarily on the impact of the Arts Council England's Digital R&D Fund for the Arts, a £7 million program established in 2012 in partnership with NESTA and the Arts and Humanities Research Council. This program ran until November 2015, funding 52 unique, collaborative projects across England that allowed arts organizations to explore the potential of incorporating digital technology into their business models. The analysis found that organizations that participated in the fund were more active and sophisticated in their use of digital technology than other organizations.

In December 2019, Nesta published its [Digital Culture 2019](#) report, which surprisingly noted that arts organizations made minimal gains in the adoption of digital technologies since 2017, despite the ambitious plans of the DCMS during this time. Though 49% of organizations agreed that technology was important, only 22% found it to be vitally important to their overall business models. Only 27% of organizations continue to engage in digital experimentation, down from 33% in 2013 when ACE's Digital R&D Fund for the Arts was still in place. Additionally, only 13% of organizations in the 2019 Digital Culture survey agree that their senior management are knowledgeable on digital technologies, down from 22% in 2013.

Though the Arts Council England's remit predominantly covers the arts and culture industries, its digital research and support resources also support many activities in the creative industries, as ACE believes that both sectors build off each other. Despite their efforts in enacting many of the digital policy initiatives posited by the DCMS, ACE's current *2020-2030 Strategic Plan* lacks explicit digital references. The strategy appears to focus more broadly on the gaps in the creative and cultural

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[31] Arts Council England, Digital Culture Network, Retrieved from: https://www.artscouncil.org.uk/developing-digital-culture/digital-culture-network

[32] National Lottery Heritage Fund, *Digital Skills for Heritage*, Retrieved from: https://www.heritagefund.org.uk/blogs/digital-skills-heritage-launches-today

ecosystem that were uncovered in Nesta's *Digital Culture 2019* report. Two of the investment principles that most notably attempt to address these findings include:

- Ambition and Quality – Ensuring cultural organizations are ambitious and committed to improving the quality of their work

- Dynamism – Ensuring cultural organizations are dynamic and able to respond to the challenges of the next decade

3.2.5   United States of America

In the US, the private sector plays a more prominent role in supporting and pushing forward digital transformation in arts. On the one hand, American foundations are significant in their size and scope. Although most American federal museums and performing arts centers are funded by a mixture of public and private funding, support from foundations and through corporate giving is also prominent as it is influenced by public policy decisions and awarded through various tax breaks.

The Audience Engine pilot was launched among the organizations in Philadelphia's performing arts and museum sectors. Audience Engine is an example of a shared digital data analysis initiative funded through private foundations (see Section 4.3 for more on this). Non-profit entities have also been established by players in the arts ecosystem. For example, the Tessitura system was developed as a non-profit company by the Metropolitan Opera. Tessitura is an enterprise software developed for performing arts and cultural organizations to manage their activities. Other for-profit examples include TRG Arts, a data-based consulting firm in Colorado that established a cloud-based software service that allowed users to build targeted promotions and perform demographic and buyer-habit research about their patrons via a permission-based system. Through its TRG community network, participating organizations can request a catalogue of segments that they wish to research. This community-wide approach allows the arts organizations to access high-quality data about their patrons, informing strategic decisions around increasing attendance and donations overall in their local economy.

On the other hand, technology giants constitute another force shaping the art world through technology support and collaboration. Google Arts & Culture provides full solutions to partner institutions who want to share collections online, including free tools to engage with audiences and additional cloud storage. Established as a non-profit initiative, users will not see advertisements on this platform. However, there may be an opportunity cost to the alternative who might otherwise build traffic on its own institution's web presence - and possibly monetize directly.

Intel labs collaborated with the Smithsonian American Art Museum in 2018, making the exhibition "No Spectators: The Art of Burning Man" into a virtual reality experience. In a press release, Intel mentioned its ambition of making museums accessible to the public across a wider range of mediums through its innovative VR platform Sansar[33].

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[33] Intel, *Explore Smithsonian American Art Museum exhibition, now live in virtual reality*. Retrieved from: https://newsroom.intel.com/news/explore-smithsonian-american-art-museum-exhibition-now-live-virtual-reality/?wapkw=art#gs.45y1zn

4. Programs and Initiatives Supporting Digital Transformation

This section provides a different view of the arts councils and funding agencies' efforts mentioned in Section 3, presenting them in parallel to support from the cultural ministries and economic development agencies. The programs and other policy initiatives profiled in this section include both domestic and international examples and are categorized by themes:

- arts creation/presentation/exhibition,
- arts distribution and marketing,
- arts accessibility and data analytics, and
- digital capacity in individuals and organizations.

This categorization follows the current state of digital transformation in the arts findings that emerging from section 2. It is a vertical value chain approach that, in some respects, parallels the three streams of Canada Council's Digital Strategy Fund. Examples of major planned initiatives and new approaches are highlighted, and the government programs that stimulated the actions are described. Some Digital Strategy Fund projects are mentioned as examples.

4.1 Arts Creation, Presentation and Exhibition

Digital technologies have enabled artists and arts organizations to make art a more participatory experience by broadening the boundaries of what can be considered art. Traditionally, using mobile devices during a theatre performance is considered disruptive, but many performing arts centres are experimenting with incorporating digital elements to their presentations - including interactions through mobile phones.

4.1.1 Sample Programs and Initiatives

Certain Canadian provincial governments support arts creation by offering tax-related incentives for labour costs associated with artistic media production and/or project development. These incentives often come in the form of a refundable corporate income tax credit, which thus predominantly benefits for-profit businesses in the digital media and screen-based industries. Animation studios, VFX production companies, or interactive digital media startups are common recipients of these incentives. Most provinces use tax credits (or other forms of rebate) to encourage eligible economic activities (particularly Canadian content projects).

In the arts sector, Canada Council for the Arts' Digital Strategy Fund has stimulated innovation in art presentation and exhibition in Canada. The fund encourages digital transformation in the arts sector on a broad level. One such example is the Digital Stage project, led by the Canadian Opera Company in partnership with Sheridan Industries Research and Training Centre. Its aim has been to explore the possibilities of digital technologies in the performing arts sector. While the fund does not support digital creation directly, numerous initiatives have explored new ways of creation and presentation.

Post-secondary institutions have been prominent supporters and enablers of digital innovation in both the arts and culture and creative sectors. Over the last decade, several Canadian institutions have launched their own digital research labs and studios, as well as offering innovative new programs and curricula, acting as an influential force in creating a new generation of digital innovators.

The Screen Industries Research and Training Centre (SIRT) by Sheridan College was launched in 2010 to explore the evolving possibilities afforded by digital image capture and creative processes in the film, television, and IDM industries. Its studio offers solutions in cloud computing, virtual and augmented reality production and digital cinema. Research labs of this type fall under the remit of

federal funding councils that support science and social/humanities research. With a wide, diversified funding pool available to SIRT, the lab is well-positioned to push tech innovation.

Despite its film, television, and IDM mandate, SIRT has been involved in projects exploring the capability of applying its technical solutions to the performing arts sector. Aside from Digital Stage, there have been recent collaborations with ProArteDanza and Occupied VR that resulted in the development of a projection mapping prototype that could add projections to a choreographed dance performance.

Ryerson University's Chang School of Continuing Education offers a Digital Art Production certificate program, teaching new forms of digital expression in art, media, and culture. The skills taught are applicable to individuals hoping to pursue careers in both traditional artistic production or the creative industries of web content design and animation.

Arts centres tend to act as incubators for digital exploration. Whether by engaging in digital exploration themselves or by supporting events and initiatives from artists and external organizations that do so. In 2019, the Banff Centre for Arts and Creativity hosted the first-ever Arts, Culture and Digital Transformation Summit in Canada, which was designed to ignite curiosity, confidence, and enthusiasm within Canadian art-making practices. Artists, researchers, policymakers, and technologists alike came together in this three-day event to explore the potential of arts in a digital world.

In France, the DICRéAM (*Dispositif d'aide pour la création artistique multimédia et numérique, Support mechanism for multimedia and digital creation*) was created in 2002 to foster innovative artistic practices that use digital tools and techniques. The DICRéAM offers support for three aspects of digital creation: development, production and presentation. The program is jointly administered by the CNC (*Centre National du Cinéma, National Centre for Cinema*), the *Centre National du Livre* and three departments of the Ministry of Culture.

4.1.2   Key Considerations

Through this literature review, most Canadian provincial and municipal programs incentivize digital media content production through tax credits on labour expenditure or capital injection encouraging innovation projects. The beneficiary companies tend to exist in the digital media sector and are technology-driven in nature. There are very few programs that incentivize arts organizations to embrace and experiment with the new potentials brought by such technologies, creating barriers for public-funded organizations to take on the risk, which is exacerbated for smaller organizations. The arts sector's slow response to leveraging technologies appears the result of two factors: digital technologies pose a cost risk, and arts leaders lack digital expertise.

Technology companies have made operations more effective in organizations across industries and have provided new tools for multi-media productions in the visual arts, media arts and performing arts sectors. Technology companies have also improved the operational efficiency of galleries and museums, providing one-stop solutions that lower the cost of digitizing arts collections. The cost of applying such technologies in a site-specific exhibition or theatre production is still high given the bespoke nature of hardware and software setup. In addition, the logistics of using VR/AR can be daunting and often requires technical expertise input overseeing the production. Of course, at this point – even in non-COVID times – the economic model has not been established for any content relying on VR/AR platforms.

Hiring and attracting new tech-savvy talent poses another challenge. Often, arts organization leaders do not possess the digital know-how themselves, exacerbating the issue as it becomes more difficult to define the new digital skills needed and, in turn, makes it difficult to select the appropriate vendors and teams to work with to implement new digital solutions. The growth of the tech sector has brought new terms, processes and products that are not yet well understood within the sectors that

are experimenting with new digital tools. This lack of familiarity has led to a challenge in making the right connections and building trust with the right partners in the technology industry.

Arts organizations need more support in demystifying and de-jargoning technology. Some networking programs have been built by support organizations internationally in an attempt to bring tech expertise into new sectors, establishing connections between cultural and creative stakeholders and reputable tech advisors. For example, there is in the UK like the Art Council of England's Digital Culture Network, and in Canada Digital Nova Scotia's Tourism Digital Assistance program. Despite these measures, more work can be done to build trust and familiarity between tech advisors and arts and culture stakeholders.

4.2 Arts Distribution and Discoverability

Digital technologies for content distribution, despite their ubiquitous application in film and tv distribution, have only begun to penetrate the arts sector. Digital platforms (i.e. through social media and online communication) are also the key to discoverability and subsequent engagement with audiences. Arts content can be disseminated in various ways online to meet different goals for audiences and arts organizations. Capturing and streaming technologies enable arts to be consumed online, whether it is full performance or ancillary content. Social media platforms such as TikTok, Instagram Live, or Snapchat provide new channels for arts organizations to capture and cultivate new audiences.

The findings in this section's research show that, while the impact of digital transformation is significant on the Canadian arts ecosystem, programs and initiatives supporting arts content distribution and marketing using digital tools have yet to become mainstream.

4.2.1 Sample Programs and Initiatives

The above review of Canadian policy support measures has shown that most Canadian provinces and municipalities have funding programs designed specifically for non-profit arts groups' operation and arts project funding. Some of these programs address the support of marketing and audience engagement activities. Arts audience development and marketing programs fall into grants for operating or marketing initiatives but do not necessarily address the challenges of distribution and marketing in a digital age. For example, while Ontario Creates supports marketing activities across all its target sectors, it is mainly one of "B2B" support without getting into end-user audience data and attendance analytics. The examples below offer a glimpse of this issue.

- Ontario Creates' Ontario IDM Tax Credit also applies to eligible marketing and distribution expenses incurred by qualifying corporations. Ontario Creates supports foreign marketing for all its target sectors. While these expenses are supported financially by Ontario Creates, there has not been a formal recognition of digital marketing capabilities and the need for creative industry producers to identify and communicate with the consumers of their products.

- Ontario Arts Council has a series of grant programs that aim to build audiences and markets. The Market Development Projects program supports artists, collectives, and arts organizations to expand geographic or demographic markets for their works. However, there is no explicit mention of digital technologies in the OAC's support program, e.g. to support the infrastructure and platforms to harness social media and Customer relationship management (CRM) tools.

- Various operating funding programs stipulate that arts organizations' marketing activities are eligible expenses, such as Toronto Arts Council's Annual Operating funding and Yukon's Arts Operating Funds. It is unclear whether investments in SEO or other discoverability tools would be eligible.

The UK's *Culture is Digital* policy paper recognizes that the outcomes of digital technologies have the potential to boost marketing and discoverability efforts. One key theme of the UK's culture policy commitments was to increase audience engagement through digital means. The Audience Agency's "metrics framework" and "best practice guideline" document was intended to be developed for use in assessing and planning audience engagement strategies across various digital platforms. Additionally, the UK Culture and Development Fund was modified to favour applications with plans to increase digital audience engagement.

Arts Council England launched the Creative People and Places program in 2013 to connect underserved audiences across England with art experiences. Rather than encouraging these audiences to come to city centres to experience arts and culture, cultural experiences were brought to them. The 30 projects funded by this program continue to make use of digital platforms to engage audiences and conduct research on the capabilities of digital engagement. The *Culture is Digital* policy paper committed to making the audience engagement research of these activities public. In that way, they would become a resource helping arts and culture organizations make use of digital marketing and engagement.

4.2.2 Key Considerations

Some of the gaps from our policy review in arts distribution and marketing include the upfront cost of production for content online, including the rights payments triggered by online distribution. In fact, rights issues, and a lack of understanding around those issues, pose another barrier for arts organizations to put content online.

Until recently, upfront costs of installing new technologies have often been prohibitive, but they are now dropping rapidly. National Theatre Live production is a sustainable model established by the Royal National Theatre UK because of support from the Arts Council England (17% of income) and a mixture of trusts and foundations. In France, the cost of digital recording works is often paid for by a combination of TV networks, the CNC (the Centre national du cinéma et de l'image animéeand, National Centre for Cinema and the Moving Image) and other online media.

Resolving and managing the artist rights related to capturing/sharing content remains a challenge in Canada. In France, streaming could be an additional source of income for opera houses as the television channels such as France Télévisions' five public channels frequently record and archive performing arts [34]. French opera houses or orchestras can negotiate recording fees directly with the channel, and then those major institutions negotiate additional fees with their permanent musicians with detailed contracts listing conditions for rehearsal, performance and recording video. As the fees are not negotiated by unions, video producers are able to reach deals directly with orchestras or opera houses.

In Canada, there does not appear to be such a system for splitting digital revenue and digital rights. Canadian performing arts organizations lack successful business cases and incentives to reach agreements with various artist unions in terms of digital distribution. During the COVID-19 pandemic, most arts companies have ramped up their streaming initiatives. The technical costs for high-quality capture and streaming are declining. However, without a tradition of exploiting online rights, most companies in North America have not invested in video capturing of performances or in acquiring streaming rights. Without much of a return from a still small streaming subscriber base, the incentive to invest beyond the odd showcase production is low.

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[34] Opera Canada, *Live-streaming: why are Canadian opera productions missing from the worldwide phenomenon?* Retrieved from: https://operacanada.ca/live-streaming-opera-canada/

In the visual arts sector, copyright law and data privacy also pose challenges in the digital space. The platform Magnus, mentioned in Section 2.2, has received complaints from galleries and competitors due to image and data theft controversies, although Magnus stands by its position to democratize access to the art world by making the art market transparent and accessible. As the images are shared and uploaded by the users, Magnus as a platform is protected in the US by the Digital Millennium Copyright Act. The Magnus website shows that it has a designated copyright agent to process any claims of copyright infringement committed using the Magnus website.

Lastly, expertise and talent are required to understand the potential of utilizing technologies to ensure the purity of experience with digital platforms- a balance must be obtained between intimacy of direct experience and digital content. This gap requires equipping organizations and their teams with new skills as a continuous investment.

4.3 Arts Accessibility and Data Analytics

Data analytics has been developed as a framework for providing a structure for evidence-based decision making, e.g., much more effective marketing campaigns. In this section, we provide data analytics solution examples in the arts sector from different jurisdictions internationally. These innovations allow arts organizations to either transform the audience experience or to reshape the services they provide. Notably, shared data pooling administrated by a third-party non-profit organization appears to be a popular model in arts sector. The UK, U.S., and Quebec are at the forefront of such solutions. They have worked out many elements of this aspect of digital transformation, from collecting data from different systems and embedding analytics into processes to collective data governance.

4.3.1 Sample Programs and Initiatives

Supported by Arts Council England and Arts Council of Wales, the Audience Agency works with the UK arts and culture communities through their national aggregate data pot. The Audience Agency is a non-profit technology and consulting business specializing in audience-focused arts and cultural digital transformation, as they relate to the collection, analysis, and dissemination of anonymized ticketing and other audience data. The purpose of this collaborative approach is to leverage crossover opportunities to help arts organizations find new audiences, compare their own marketing strategies against others and generally develop a much more sophisticated approach to understanding their audiences.

In the Audience Agency's national data pot, different data sources (e.g., ticketing data, number of times the subscriber has frequented the venue, the geolocation of the patron, and other available 3rd party data) are captured from more than 300 venues and stored in a secure digital warehouse. The Audience Agency's "audience spectrum" tool is then applied to profile the population. Instead of promoting to existing members, the audience spectrum views the whole population as potential audiences to help organizations understand a spectrum of needs and find new audiences.

The Audience Agency developed "Audience Finder," a free shared national audience data and development tool used by arts, culture, and creative organizations to understand, compare and apply audience insights. This tool pools data from arts organizations across the UK. All organizations registered to use Audience Finder are required to share their audience data, which is then pooled together and analyzed and displayed in a dashboard on the platform.

The Philadelphia Audience Research Centre project in the US was funded by the William Penn Foundation. It was piloted among a dozen performing arts organizations to test a shared database and dashboard called Audience Engine. Funded by the Barra Foundation, another Museums

Audience Research project is being piloted among some Philadelphia museum organizations using Audience Engine.

In Canada, Synapse C was funded by the Canada Cultural Investment Fund at the Department of Canadian Heritage through the Strategic Initiatives component, Ministry of Economic Development, Innovation and Export Trade Quebec, and Ministry of Culture and Communications Quebec. Established in 2019, Synapse C is Canada's first organization dedicated to data for the arts and culture. The initiative is aimed at helping cultural organizations better understand audience behaviour through data analytics by developing and pooling Canadian expertise in data manipulation for the national arts and culture sector. Synapse C works closely with participating organizations to focus on four main areas: Pooling and use of data, knowledge transfer, partner search and training. Specific challenges such as determining the best time of a day to contact the audience members and encourage participation are examples of the questions that Synapse C's analysis can help organizations address.

Similarly, the Audience Analytics Collective led by TOLive is an audience data sharing initiative funded by the Digital Strategy Fund. The project is entering its pilot phase and will establish a proprietary framework for cultural institutions to safely pool audience data to gain a richer understanding of the Toronto arts audience. This initiative will explore demonstration projects that can inform future investments as far as responding to audience needs and preferences.

Another impactful digital exploration initiative is being carried out by The Canadian Association for the Performing Arts (CAPACOA). This association has recently partnered with a consortium of experts on both sides of the Atlantic to begin working on a standard linked data model — a logic framework with clear categories and relationship descriptions for connecting data points within the performing arts and with other knowledge domains. The initiative calls upon other organizations to create a radical collaboration across the arts sector to leverage linked open data to build a sector-owned knowledge graph, where the data is owned and authorized by the very arts organizations who contribute to it. The initiative is a community mission called The Digital Innovation Council for the Performing arts to investigate the impact of digital technologies on all facets of the performing arts sector - from presentation to copyright to data analytics. This engagement has resulted in the publication of research on digital technology's influence in the performing arts and the creation of a website with resources for understanding the potential of data analytics and website coding for discoverability.

4.3.2   Key Considerations

The main theme that emerged in arts accessibility and discoverability revolves around data analytics applications, open data initiatives, semantic web, online content, and structured meta-data, etc. On the individual organization level (regardless of the organization size), the common challenges lie in the limited capacity to collect data, integrate data sources, and advanced understanding of data analysis. On the collective level, complying with data privacy and data ethics standards requires legal advice and independent third-party governance input. As such, due to different strategic priorities in arts organizations and limited capacity and skills, a tool that does not require an advanced understanding of data analysis would greatly improve the effectiveness in generating timely and actionable insights.

As illustrated in the section above, the arts sector in Canada (particularly in Quebec and Ontario) and around the globe have been actively involved in leveraging data analytics to better understand arts and culture's audiences. Moreover, such initiatives have shown that a collective solution is proven to be beneficial to arts organizations, in particular smaller organizations that have less available data and resources.

4.4   Digital Capacity of Individual Artists and Arts Organizations

This section looks at initiative examples that support and invest in building relevant digital capabilities in artists and arts organizations. Enabling talent and organizations to thrive in a digital age requires a digital culture – one that is embedded in strategy planning. This requires investing in building relevant digital capabilities that fit with strategic priorities and keeping pace with audiences as they change the way they engage, consume, and explore.

4.4.1   Sample Programs and Initiatives

As mentioned in section 3, the Canadian federal government has programs that support initiatives using technology to improve arts organization's business models. This section takes a more detailed look at programs and initiatives on a provincial and municipal level.

The **Toronto Arts Council** established the TAC-FCAD Digital Solutions Incubator in collaboration with **Ryerson University**. This pilot program was established in 2018 with the aim to encourage arts organizations to unlock creative possibilities using technology.

The **DigitalASO** is another example of a digital initiative that is supported by multiple levels of government. Its Digital Arts Services Symposium (DASSAN) was funded by Ontario Arts Council, Toronto Council for the Arts' Open-Door Strategic Funding and Canada Council for the Arts' Digital Strategy Fund. An emerging digital arts services platform, **Artse United**, was incubated and funded subsequently by the Canada Council for the Arts' Digital Strategy Fund as a result of the symposium. Other examples include:

- The city of Montreal cultural strategy "'Combining Creativity and the Citizen Cultural Experience in the Age of Digital Technology and Diversity: The 2017–2022 Cultural Development Policy'"

- Culture Montreal's declaration of Montreal: World Capital of Digital Art and Creativity is a cultural development policy that embraces digital technology to enhance the city's cultural development.

- Almost all provinces (ON, BC, Alberta, Nova Scotia, New Brunswick, and Quebec) provide grants to individual artists and arts professionals for training; these grants support all art disciplines. Some grants are specifically designed for capacity building, such as Developing Careers and Arts Services by Ontario Arts Council or Career Development by Arts NB, but no grant is specifically designed for digital skill improvement.

A digital department and senior digital officer are more prevalent in the larger institutions than in small institutions, of course. Many large arts institutions in the US already have digital departments and leadership that plan, test, and implement digital transformation strategies for their organizations. Such as[35]:

- **Metropolitan Museum of Art,** New York: Digital department led by its Chief Digital Officer

- **National Gallery of Art, Washington**: Digital Media Division led by Chief of Digital Media

- **Museum of Fine Arts**, Boston: Creative and Interactive Media led by Director of Creative and Interactive Media

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[35] Met Museum, *Digital is more than a department. It is a collective responsibility*. Retrieved from: https://www.metmuseum.org/blogs/now-at-the-met/2017/digital-future-at-the-met

- **Art Institute of Chicago**: Digital Experience led by Executive Director

- **Brooklyn Museum**: Digital Engagement led by Director of Digital Engagement

The larger Canadian arts institutions are staffing up in the digital executive ranks, including the Art Gallery of Ontario, National Ballet of Canada, Canadian Opera Company, ROM, Musée des beaux arts, Royal BC Museum, and recently Harbourfront Corporation. Expertise in the digital area is becoming more common in the next tier of arts organizations, and they are hiring digitally literate officers. However, there is much to be done to upgrade the capability of most arts organizations to help design and implement digital strategies.

4.4.2 Key Considerations

Although there is no set of best practices for digital departments in arts organizations, an organization's digital capacity relates to different functions horizontally across the organization. As illustrated in the three sections above, digital transformation encompasses the entire arts value chain. Continuous investments are required to support digital literacy and skills in individuals and organizations.

In conducting research and consultations to inform their 2020-2030 Strategic Plan, Arts Council England found that the rigid business models of publicly funded cultural organizations are, by nature, fragile and susceptible to environmental changes (i.e. changes in government, philanthropic efforts, etc.). As a result, these organizations are less flexible, and their leadership is admittedly risk-averse in their responses to emerging challenges and opportunities, particularly as they relate to the decline of public funding and the growth of new technologies. Implementing novel and potentially expensive digital technologies into a traditional arts organization's infrastructure is viewed as risky by leadership, and these opportunities are therefore often neglected entirely.

As cited earlier, Nesta's Digital Culture 2019 report found that only 22% of arts organizations across the UK think that digital technology is important to their business models,[36] and there has been a decrease in digital-related R&D activities, according to that survey. This data might be a result of the lack of specific funding programs supporting digital transformation available since the Arts Council England's Digital R&D Fund for the Arts was completed in 2015.

Even when this fund was offered, its purpose was on providing funds for digital exploration rather than on purchasing equipment for long-term digital infrastructure investments. The decrease in digital R&D activity can be attributed partly to the completion of the Digital R&D Fund for the Arts. However, the large proportion of arts organizations who do not find that digital technology is important to their business models might simply mean a lack of investment available for digital infrastructure. Or it might represent a more strategic view to invest more wisely. At this time, it is a matter of speculation.

5. Programs and Initiatives during the COVID-19 Pandemic

In this section, some of the latest jurisdictional actions and responses to the COVID-19 pandemic situation are reviewed. As the outbreak is moving fast and different countries are at different stages of the pandemic, the insights in this section will draw on the future implications and speculations for the arts sector in different scenarios.

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[36] Digital Culture 2019, Retrieved from: https://media.nesta.org.uk/documents/Digital-Culture-2019.pdf

The COVID-19 outbreak was officially declared a pandemic by the World Health Organization on March 11, 2020. According to the Organization for Economic Co-operation and Development (OECD), the cultural and creative sectors are among the most affected by the current COVID-19 crisis, along with the tourism industry. The current crisis poses a structural threat to the survival of stakeholders in the cultural and creative sectors. Artists' precarious work arrangements and arts organizations' structural fragility were prominent concerns before the pandemic; the current world environment, therefore, poses a significant risk to these stakeholders now.

5.1 Short-Term Policy and Initiatives

Urgent cash injections, emergency financial assistance, and other measures were established by governments in a short period of time to support unemployed artists and shuttered institutions financially. Pivoting to make use of digital technologies was encouraged as a short-term measure. Initiatives sprung up from the government, through commercial sector partnerships and through initiatives in the arts sector itself. At the same time, arts organizations, arts collectives, and individual artists are busily deploying technology for audience engagement purposes to ensure they stay relevant during this time. Other than the universally applied Emergency Fund most governments made available to all workers, including artists, some arts-specific measures were made by different countries:

- **UK**: Arts Council England announced a £160 million emergency fund to help artists, venues, and freelancers in the cultural sector.

- **Germany**: the German federal government offered a €50 billion aid package to small businesses and freelancers, including those from the cultural, creative, and media sectors.

- **Canada**: The Heritage Minister unveiled that $500 million was to be directed to Canada's arts, sports and cultural sectors. As well, the Canada Council for the Arts planned to release $60 million in advance funding to arts institutions in Canada.

    o Canada Council for the Arts has also made more immediate support available between April and July 31st, 2020, through their Digital Strategy Fund. Applications for short-term, single-phase projects that immediately address the needs of the art sector as it navigates the impacts of the COVID-19 shutdowns are being accepted through all streams of the fund. Projects that offer strategic responses to the crisis with the potential to both immediate and longer benefits to the sector can receive up to $50,000 in support.

Apart from arts-specific funding, the COVID-19 pandemic stimulated many initiatives to support artists by financing their online performances. Technology companies from the private sector which provide distribution and marketing infrastructure are teaming up with the public sector to support artists. There has been some public involvement in these initiatives, for example, the following:

- **Facebook Canada** and **National Arts Centre** established the CanadaPerforms initiative, a $700,000 short-term relief fund that pays professional Canadian artists and professionally published authors for their live online performances.

- Ontario musicians can apply through **MusicTogether** to perform on their own choice of digital channels - funded 50-50 between the Province and the music industry ($300,000 in total). In addition to encouraging artists to turn to digital platforms, the MusicTogether platform also provides resources for artists to monetize their audience through the sale of merchandise.

- **CBC/Radio-Canada** and the **Canada Council for the Arts** created the Digital Originals initiative, a $1 million fund to help artists, groups and arts organizations pivot their work to online audiences during the COVID-19 pandemic.

Other platforms have emerged during the COVID-19 shutdown to support individual artists and smaller organizations that do not have established platforms for long format content. Some of these cases include:

- **URGNT LIVE**: a Toronto-based online venue that has quickly adapted to promote social distancing and create a curated platform to present and support the best of the city's musicians. Recently collaborated with MusicTogether to promote an online festival.
  - Platform: Facebook

- **Social Distancing Festival**: The Social Distancing Festival is an online artist's community made to celebrate and showcase the work of the many artists around the world who have been affected by the need for social distancing.
  - Platform: Facebook/Youtube/Instagram/Artist's website

- **Side Door**: Side Door is a platform that matches artists with hosts, builds direct connections, and simplifies the show-booking process with easy and transparent digital tools.
  - Platform: Zoom

5.2   Long-Term Policy and Initiatives

While investments in support of the Canadian arts sector are becoming more widespread, organizations, arts workers, and individual artists are facing unique challenges during the COVID-19 crisis that existing stimulus programs were not designed to address. All provincial arts councils provide COVID-19 information and links to resources for artists during this time. However, some challenges have been amplified by the pandemic and indeed might persist over the long term. Those challenges such as digital transformation and adoption are likely to be relevant still after the pandemic situation dissipates. The impacts are likely to be prolonged. Debates and conversations are emerging around policy support to alleviate both short-term and long-term effects of the crisis on the arts ecosystem, e.g. variations of the Universal Basic Income (UBI) concept.

Measures such as advanced grant payments and the federal wage subsidy are likely to be helpful in the short term to art institutions that benefit from public support and operate on thin margins. However, art organizations are calling for sector-specific relief for the Canadian art gallery and museum world and future long-term measures to support digital activities and lost revenues. The Ontario Association of Art Galleries also expressed concerns that the federal government is being guided by a limited model in the sense that the "box-office model" driven relief measures put the performance arts sector in the foreground as the visual arts sector struggles to have a voice at the table.[37]

Some countries have made efforts in mapping out short-term and long-term effects for the arts and culture sector to support recovery measures. The Network of European Museum Organizations (NEMO) and European Cultural Foundation (ECF) have launched surveys mapping the impacts of

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[37] Canadian Art, *Museum and Gallery Association Respond to COVID-19 Support for Art Non-Profits*, Retrieved from: https://canadianart.ca/news/museum-and-gallery-associations-respond-to-new-covid-19-support-for-art-nonprofits/

shutdowns and corresponding response initiatives across Europe. In response to the published survey results, NEMO highlighted that digital cultural heritage and digital engagement has demonstrated its value in the past weeks and asks stakeholders to increase their digital platform use and content supply in the future. The COVID-19 pandemic has fast-tracked digital transformation in museums, according to the initial results from NEMO survey. More than 60% of the museums surveyed have increased their online presence since they were closed due to social distancing measures, while only 13.4% have increased their budget for online activities.[38] NEMO further suggests that budgets and strategies should respond to these findings, take advantage of current efforts and allow for investments in digital content, services and infrastructures in the future

5.3   Role of Digital Technology in the Arts' Sector's Recovery

While many smaller organizations have turned to social media platforms during the pandemic, as mentioned above and in Section 2.2, their ability to promote their artists effectively in a crowded digital environment is a challenge as audiences can easily be distracted by content that attracts big traffic. Small World Music's Executive Director Umair Jaffar notes that for smaller organizations, there are also substantial limitations to effectively perform online. Lacking access to a good camera, audio equipment, or fast internet is another obstacle for performing artists and organizations.[39]

Despite challenges in pivoting towards digital operations, digital technology has shown an increasingly important role in supporting the recovery of the arts sector following the COVID-19 pandemic. We have seen that investing in digital technology is central to an organization's success and survival. Canadian arts funders at all levels have been actively advocating support and responding to the COVID-19 pandemic. At the same time, arts organizations and policymakers will have to look at their programming and initiatives with a digital frame in mind. Re-considering the role of digital technology in arts with a strategic lens for long term planning will enable the arts sector to be more resilient.

6. Summary

In this section, we consider some of the insights derived from our scan of different initiatives among jurisdictions as well as the arts value chain.

Digital Transformation in Cultural Policy

As illustrated above, national and jurisdictional cultural policies in the UK, France, Belgium, and Quebec respond to the shift to digital platforms and technologies and are taking the disruption as an opportunity to boost the arts and cultural sector. Embracing these changes in strategic goals cultivates a culture of innovation. These policies further guide regional efforts to undertake initiatives to understand their digital priorities. In response to these digital initiatives, different levels of government and the private sector can support the arts community – which can then support

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[38] Network of European Museum Organisations, *Survey on the impact of the COVID-19 situation on museums in Europe*. Retrieved from: https://www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_Corona_Survey_Results_6_4_20.pdf

[39] Toronto Foundation, *COVID-19: Shutdowns and resilience in Toronto's arts & culture sector*. Retrieved from: https://torontofoundation.ca/covid-19-shutdowns-and-resilience-in-torontos-arts-culture-sector/

themselves more effectively. Together, a new arts ecosystem that is shaped by new business models and economies can result in a payback for the public incentives.

Programs that Recognize the Use of Digital Technologies in All Aspects

Throughout the review, Canadian funding instruments supporting arts projects, marketing and touring, and organizational operation are applied in some form by all governments, but digital development is yet to be a large part of the envisioned objectives in many programs or recognized as the driver to greater impacts. With the unprecedented opportunities presented to audiences, programs that encourage and incentivize the reach to a broader audience and develop new business practices will help arts stay relevant in the digital age. Discoverability in a world awash in online content is one obvious short- and long-term concern.

Building Resilience through Digital Transformation in the Pandemic Era

The arts sector has already been experiencing little or no growth in revenue and operating with thin margins before the pandemic. Research by the Metcalf Foundation points out that public funding is no longer available to make it feasible for artists to establish and maintain a non-profit organization.[40] In addition, small organizations struggle to develop and maintain their revenue sources because their operating margins are simply too small to allow for the organization to recover from failures to meet earned revenue targets.[41] The current crisis offers an opportunity to fast-track or double down on digital transformation. Our research showed the significant upside of having developed digital channels pre-pandemic, as organizations with a strong digital presence were able to pivot quickly in response to the shutdown of all venues and institutions. The Berlin Philharmonic's Digital Concert Hall offered a month of free access to registered users. National Theatre UK live-streamed its production on the National Theatre's YouTube channel. Marquee TV also launched a joint streaming initiative with Royal Shakespeare Company and Royal Opera House. An accelerated transition to using online tools is particularly imperative in the possibly long runway back to more typical arts performances. Digital transformation has become the backbone of the ecosystem.

These European examples could be replicated by the leading US arts institutions with world-wide brands – and are doing so. Unfortunately, Canada still lacks industry examples of performance organizations that have been able to transition to a strong, internationally recognized digital presence. Allying with major distributors and collaborative, collective action would be more reasonable avenues for exploration than emulating organizations with more massive investment potential.

To conclude, as the use of digital technologies is advancing in all aspects of society, certain jurisdictions have set ambitious digital strategy goals for arts sector or are developing plans to implement a digital strategy in the arts sector. The complete contactless reality COVID-19 pandemic created has amplified the need for digital transformation in all aspects of arts – to be able to carry out art creation online, continue audience engagement, make data-informed decisions, and carry out daily operations. Being able to fast-track digital transformation is a minimum prerequisite in the world's new digital reality. This means that artists and cultural organizations need to be ready to put content online, establish virtual channels to communicate with members and develop the capacity to work remotely through digital means.

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[40] Marsland, J. (2013). Shared Platforms and Charitable Venture Organizations: A powerful possibility for a more resilient arts sector. Toronto, ON. Metcalf Foundation

[41] Wilhelm, Kelly, A Balancing Act: Supporting the Arts in Canada, The Philanthropist, 2019, Retrieved from: https://thephilanthropist.ca/2019/05/a-balancing-act-supporting-the-arts-in-canada/

As the situation unfolds, early-stage patterns are showing in countries like China, Taiwan, and South Korea when cities lift their lockdown policies and economic activities rebounded. Consumption of household products such as food takeout, skincare and make-up are reporting positive spending intent in China, India and Korea.[42] Consumption of online entertainment is reporting positive growth in the US, UK, France, etc.

It is not clear what the medium or long-run impact of the pandemic will be. However, the future evolution points to some form of a hybrid model. Public policy and businesses will react and guide public response and engagement. For instance, the American Enterprise Institute released a four-stage reopening roadmap for the nation to navigate through the current pandemic.[43]

The challenges are also providing opportunities. According to a survey conducted in China in March, the positive impacts for companies include gaining the ability of online marketing and business development and wide recognition of the value of digital transformation and information technology among all employees. These positive impacts showed the recognition of the immediate future lies in understanding how to provide digital service offerings and what to do with digital technologies.

As the impact of the COVID-19 crisis spreads, governments in different countries and at different levels are mobilizing to sustain the economy in arts. While immediate action is critical, support and directions to a midterm and a long-term horizon are needed for arts sector to thrive in a new normal. The widespread deployment of digital activities has been a key step towards resilience as arts organizations navigate the current crisis.

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[42] McKinsey & Co., *Consumer sentiment and behavior continue to reflect the uncertainty of the COVID-19 crisis,* October 2020, Retrieved from: https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19

[43] American Enterprise Institute, National Coronavirus Response: A Road Map to Reopening, March 2020, Retrieved from: https://www.aei.org/wp-content/uploads/2020/03/National-Coronavirus-Response-a-Road-Map-to-Recovering-2.pdf?x88519