CAPACOA
CANADIAN ARTS PRESENTING ASSOCIATION
ASSOCIATION CANADIENNE DES ORGANISMES ARTISTIQUES

DIGITIZING THE PERFORMING ARTS

An Assessment of Opportunities, Issues and Challenges

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April 2017

Acknowledgement

The Canadian Arts Presenting Association (CAPACOA) and Strategic Moves acknowledge that we live, work, meet and travel on the traditional lands of Indigenous peoples that have cared for this land now called Canada since time immemorial. Specifically, our work in Ottawa takes place on unceded and unsurrendered Algonquin Territory. Strategic Moves (Whitehorse) acknowledges the Traditional Territories of the Kwanlin Dün First Nation and Ta'an Kwäch'än Council, self-governing nations that negotiated modern treaties under the Umbrella Final Agreement between the 14 Yukon First Nations and the Governments of Canada and Yukon.

This assessment has been funded by Canadian Heritage, commissioned by CAPACOA and undertaken jointly by Strategic Moves and CAPACOA.

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PART 1: BACKGROUND

Genesis

Initial explorations during *The Value of Presenting: A Study of Performing Arts Presentation in Canada* (©2013, CAPACOA/Strategic Moves) signaled that the use of technology by arts presenters and Canadians' views of what they considered a live performance merited deeper and broader study:

- Arts presenters were primarily concerned with marketing opportunities that digital communications technologies afforded them through online and social media networks.[1] Presenters also had widely adopted advanced technologies in stage productions. Meanwhile, artists and producers have been experimenting with digital technologies to deliver performance experiences to audiences directly.
- A surprising number of Canadians identified their experience of live performance more broadly than the live performing arts sector tended to: 29% of Canadians equated watching a show live on TV with attending live and 16% equated live streaming on the Internet with live attendance. Canadians over 55 were about twice as likely as Canadians under 25 to equate these activities.[2]

In short, the intrinsic qualities of attending a live performance seemed to be challenged by a sizeable group of Canadians who identified mediated performance experiences as equal to attending live performances in person.

In January 2015 Inga Petri, gave a seminal presentation at CAPACOA's national conference on *Breaking the Fifth Wall: Digitizing the Performing Arts*. This presentation made the case for the development of some form of digital distribution platform for the performing arts. She argued that through ownership by the presenting field of such a platform, presenters whose primary functions are as intermediaries between artists and audiences could establish their relevance in the digital world.

Interest in digital innovation and the need for a comprehensive study and, ultimately, a digital action plan, was solidified at CAPACOA's national conference in November 2015. An initial round of federal funding was secured by the fall of 2016 to fund this assessment as a first phase of a sector-wide national investigation of opportunities for digital innovation in the performing arts.

Context: Federal Government and the Digital Economy

With a new federal government elected in late 2015, significant federal commitments to increase funding for the arts and culture sector have been delivered. During 2016, both the Department of Canadian Heritage and the Canada Council for the Arts have embarked on strategic explorations related to the still emerging digital economy.

Canadian Heritage embarked on a cultural policy review, titled *Canadian Content in a Digital World,* “to explore how to strengthen the creation, discovery and export of Canadian content in a digital world.” Its focus has been on cultural industries and in particular Canadian content for digital television and broadcast media and the impact of the Internet on traditional broadcasters.[3]

The Canada Council for the Arts has begun to develop a digital strategy to enable “the arts sector in Canada to more effectively respond to the changes and upheavals caused by digital technologies.” Importantly, this strategy is not about digital arts creation, but rather the arts and artists in the digital era.[4] Its explorations so far have been focussed on artists and performing arts companies, which represent their traditional constituencies, rather than include the wider performing arts eco-system.

This present assessment of the opportunities, issues and challenges of digitizing the performing arts is complementary to undertakings by Canadian Heritage and the Canada Council for the Arts. Their respective research and consultation reports published in February 2017 affirm this fact. Both of these processes are ongoing at the time of this writing.

> *“[…] much of the discussion has become focused on marketing, technology and risk. Especially the rapid and unpredictable rise of online and mobile communications technologies, that have irrevocably changed how audiences behave and that has created myriad new opportunities for engagement and socializing, has put pressure on presenters at a time when their long-time audiences are aging rapidly and are not being replaced necessarily at the rate required to sustain the old model.”*
>
> — Reflections and Recommendations to the *Value of Presenting Study* Advisory Committee (March 2013, Inga Petri)

Methodology

We founded the Digital Innovation Council for the Performing Arts which is co-chaired by Frédéric Julien, CAPACOA and Inga Petri, Strategic Moves, as a forum and catalyst for ongoing conversation, research, exploration, capacity-building and development.

With this assessment we aim to:

- Establish a clear understanding of where the presenting sector stands currently with regards to the digital realm.
- Explore current and emerging digital technology opportunities for the performing arts and performing arts presenters' role in digital arts and cultural dissemination.

This assessment comprises several streams of exploration:

- Recent literature related to the performing arts and digital innovation.
- Lessons learned from cultural sectors that have undergone profound structural change due to digital or online technologies in the last 20 years.
- Trends in consumer digital technology and strategies, tactics and mechanisms of digital creation, dissemination of and interaction with content.
- Review of digital innovation in performing arts initiatives with a focus on new types of business models.

To-date we have facilitated several dialogues with about 70 participants active in the performing arts and technology fields:

- *Consultation on Digital Innovation in the Performing Arts* web conference – May 11, 2016
- Dialogue on *Digital Innovation in the Arts* – October 24, 2016
- *How to develop new business models in a digital world?* – November 16, 2016
- *Digital Innovation in Performing Arts Presentation* web conference - March 13, 2017

Frédéric Julien also attended:

- *Numérique et arts de la scène*, Forum RIDEAU - February 13, 2017
- *The Arts in a Digital World Summit*, Canada Council for the Arts - March 15-17, 2017

This assessment represents one phase within a sector-wide, national research and development process. It provides a springboard for new conversations and digital capacity- and skill-building in the presenting field. And it informs the next critical stages of digital innovation in the performing arts.

PART 2: THE DIGITAL QUESTION FOR PRESENTERS

Where have others seen the Arts Presenter fit?

In October 2011, CHRC concluded in *Culture 3.0: Impact of Emerging Technologies on Human Resources in the Cultural Sector* that some arts sectors can become fully digital while others, like the performing arts, cannot:

- "Consumption trends have pushed digital adoption to a high level in the music and sound recording industry, where the majority of development, production and distribution activities are now digital."
- "The heritage and live performing arts sub-sectors still distribute a primarily physical product in a physical location. However, each sub-sector is experimenting with digital distribution (e.g. 'live' performances simulcast in movie theatres and virtual museum and gallery tours), but the essence of each sub-sector is attracting visitors. The live performing arts and heritage sub-sectors will never be 'fully digital,' but digital technologies are being leveraged to attract more visitors and enhance the audience participation in these sub-sectors."

> ***Lesson:*** *As digital and online platforms continue to evolve and convergence of digital technologies create new types of opportunities in the digital realm, the assertion that live performing arts 'will never be fully digital' appears out-dated.*
> *Some players could indeed be fully digital as the lines between live performance, media arts and gaming blur and create new modes of creation, participation and consumption.*

Also in October 2011, a Quebec-based *Colloquium on Youth, Cosmopolitanism and Digital Environment: Cultural Participation in Flux* affirmed that younger people and ethnoracial communities participate in the arts outside of traditional arts venues:

- In the digital era, art is no longer meant to be met at a dedicated date and time; art is accessible 24 hours a day, 7 days a week. Traditional cultural infrastructures (i.e., theatres) are no longer the sole places for cultural vitality in a community. Any venue or context has a cultural potential.

> ***Lesson:*** *People seek out and create access opportunities whether or not the traditional infrastructure offers them.*

In February 2017, Canada Council for the Arts released a literature review by Nordicity on *The Arts in a Digital World*. On "the evolving role of intermediaries, curators and programmers", the report states that "… as audiences gain the ability to curate their own content, and seek content on multiple devices and platforms, artists and arts organizations have had to respond to new intermediaries such as search engines, applications, video and audio streaming services, online booksellers or on-demand downloading options."

In *What We Heard Across Canada: Canadian Culture in a Digital World*, prepared by Ipsos Public Affairs Canada for the Department of Canadian Heritage key themes from this broadcast system oriented review that stood out for consideration by performing arts presenters are:

- To place greater focus on <u>showcasing Canada's cultural sector</u> by supporting production as well as marketing and communications.
- To assert the role of Canadian creators and ensure they are <u>fairly compensated</u> from digital and potentially global digital distribution.
- To foster <u>effective collaborations</u> throughout the cultural industries eco-system and develop adaptive funding mechanisms.
- To establish the same <u>high speed broadband networks in all rural and remote areas of Canada</u> that exist in more densely populated areas of Canada to eliminate systemic biases in access, such as those experienced in Indigenous communities and in Northern communities.

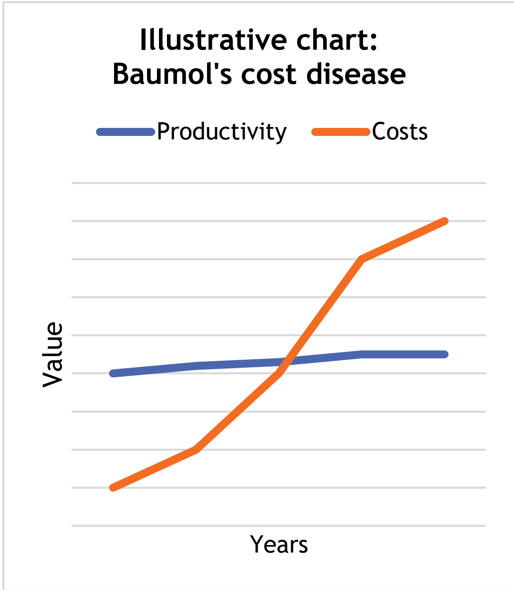
Lessons: *Presenters cannot rely on other members of the live performing arts eco-system to consider their skill sets or potential contributions in the digital world.*
It is acknowledged that there will be intermediaries for digitized performing arts. The question is who that will be and whether presenters can carve out a space that transfers and expands their expertise to these new digital spaces.

Lessons: *While the Canadian Heritage consultation was focussed on cultural industries, these systemic concerns apply to the performing arts as well. Moving toward digitization of performing arts appears inevitable. Creating effective support mechanisms for the transition toward digital while maintaining adequate support for live performance will be an important consideration. New modes of collaboration will be key to enabling the necessary changes and ensuring fair compensation in the arts.*

Economics of Presenting

In the 1960s William Baumol and William Bowen described Baumol's cost disease in the performing arts. They observed that this issue arises when labour costs rise, alongside economy-wide increases in cost-of-living, without an attendant increase in productivity.

This issue in the performing arts has been tied to the fact that live performances cannot readily be scaled. A play or a symphony requires the same number of players today as it did when it was created. It is also tied to the creative inputs that cannot easily be automated through new technologies: original ideas are by definition human and unique.



Performing arts presenters have responded to this dilemma by, on the one hand, working to increase revenue and diversify revenue streams through:

- Charging higher ticket prices
- Increasing private donations and corporate sponsorships
- Increasing public funding support

On the other hand, arts presenters and stakeholders in live performance have been working to reduce costs:

- Reliance on volunteers (2012 data showed 17 volunteers to 1 staff in presenting organizations[5])
- Re/negotiate union contracts
- Limit number of artists performing and/ or do not increase artists fees

These kinds of choices necessarily affect overall quality and production values which in turn can affect touring opportunities and opportunities to build strong, valued arts brands.

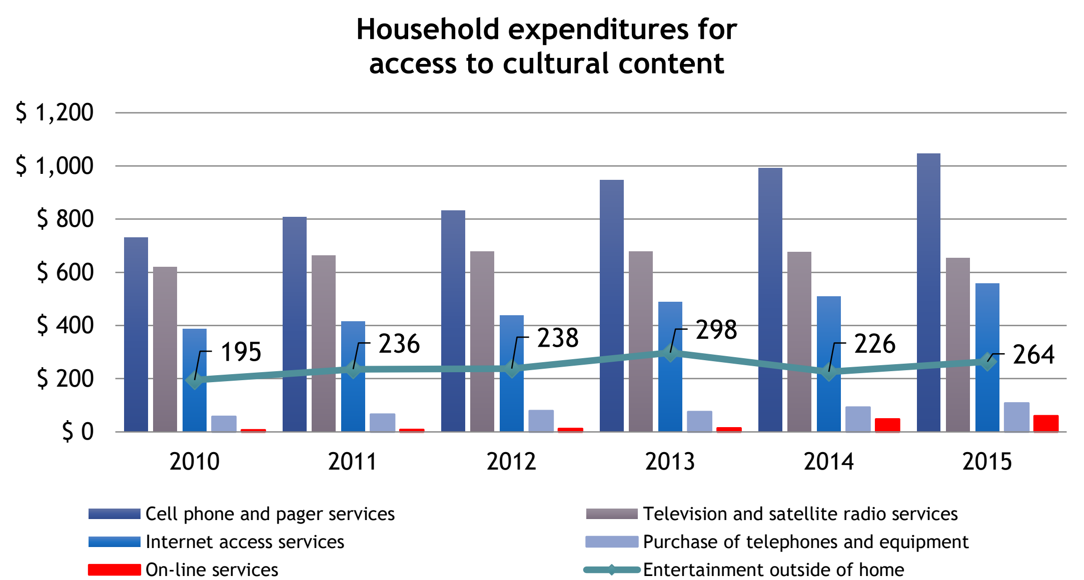
In the context of the second largest country on earth spanning six time zones and extending from its moderate latitudes to the far-northern arctic, this challenging dynamic is further compounded.

Consumer Spending

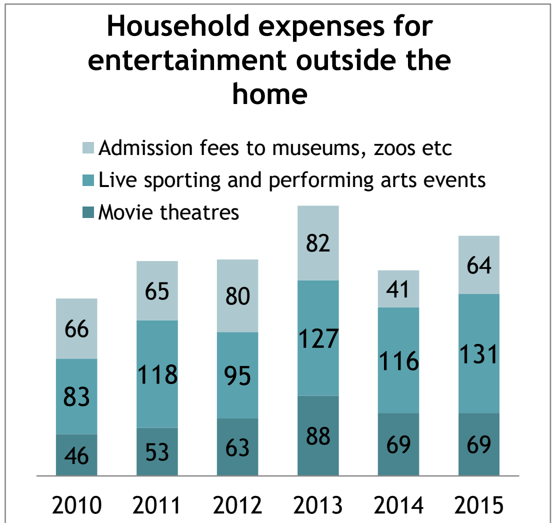
The most recent data from Statistics Canada shows the growth in Canadian household spending including on communications (which are integral to accessing cultural content in the digital era) and entertainment outside the home. Overall the expenditures tracked grew 15% from 2010 to 2015. The shift toward digital is clear with online services – this category includes on-line viewing of movies and TV episodes (e.g. Netflix), on-line gaming and gambling, web hosting services, streaming services (e.g. Spotify) – growing the fastest at 757% while television and satellite services registered the slowest growth with 5% between 2010 and 2015. Entertainment outside the home has held steady at 9.8% of all expenditures for accessing cultural content.

There is some fluctuation for each sub-category within entertainment outside the home. Live sports and performing arts nonetheless fare relatively well, with a 58% growth.

Hope: *So far, the sector is holding steady.* ***Concern:*** *The volume of spending strongly favours digital access and channels and far exceeds that of live events.*



Source: Statistics Canada, Survey of Household Spending 2015; prepared by CAPACOA.

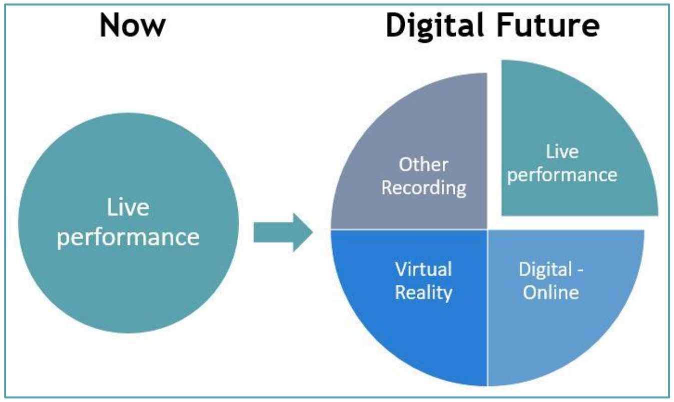


Source: Statistics Canada, Survey of Household Spending 2015; prepared by CAPACOA.

The Digital Question

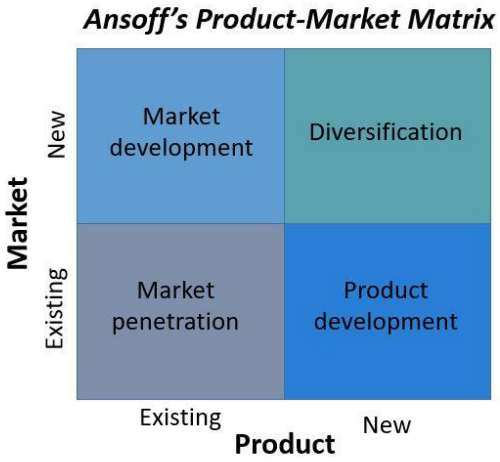
Presenters historically have been the dominant platform where performing arts and audiences connect. The theatre, stage or the festival site literally act as a platform.

- Can live arts presenters re-invent distribution of performing arts at digital scale?
- How will Canadian artistic talent be nurtured and supported to grow viable careers and earn fair compensation in the digital realm?
- How can we, and should we, as a free, vibrant society assure a broad diversity of voices that reflect all of Canada is heard in digital spaces as well as live performance spaces?
- What is the future of live Canadian theatre, dance, music and other performing arts as digital technologies and capacities of data networks continue to advance?



REVENUE FROM PERFORMANCE MAY GROW AND DIVERSIFY THROUGH DIGITAL AVENUES

A strategic planning tool to help clarify these questions may be Igor Ansoff's Growth Matrix:



There are four main options to grow and protect a market. Digitizing the performing arts is firmly in the *diversification* quadrant, the most challenging of the options as both new markets and new products must be developed simultaneously.

PART 3: CURRENT DIGITAL LANDSCAPE

Defining Digital

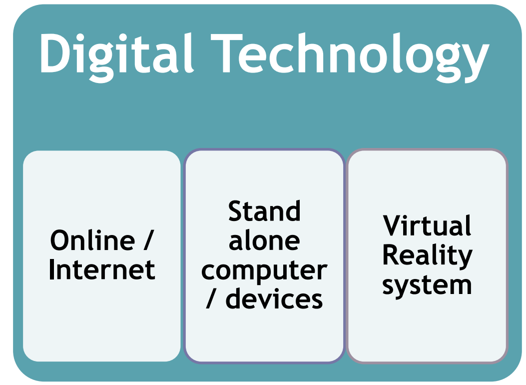
In some literature and conversational references, the terms *digital* and *online* are sometimes used interchangeably. However, while online does equate digital, the reverse is not entirely true. Digital technologies exist beyond the online universe.

As such this report doesn't equate "digitizing the performing arts" with putting "performing arts online."

Digital at its most basic level means 'not analog.' Digital technology renders electronic transmission through computer programs in two states: positive (1) and non-positive (0). In contrast, analog technology uses electronic signals of varying frequency or amplitude to convey information via carrier waves. Digital files can be posted online; they also exist as stand-alone digital products, tied to projection systems, be used in virtual reality systems or augmented reality. There is an increasing convergence toward the online environment.

Augmented Reality (AR) refers to the digital overlay of information on the actual physical environment, for instance, using geolocation.

Virtual Reality (VR) is a computer-generated artificial environment where the user through special equipment can interact in ways that make it seem real.



Current Digital Technologies

This list of digital technologies has been collected from various reports[678] and web searches. This list is a snap shot that aims to capture major categories, rather than specific technologies, of digital used in or with potential in the performing arts.

Digital technologies in performance settings

- Digital images, animation and video in stage production design
- Digital supers, closed captioning in theatre, opera
- Digital sound mixers and other production technologies
- Movement, gesture and video sensors
- Artificial figures and virtual characters, holograms of live performers

Digital technologies in off-line environments

- Cinematic events (e.g. Metropolitan Opera, Stratford Festival live HD broadcasts)
- Installations, sound and image sculptures
- Augmented reality
- Virtual Reality (There is convergence toward online integration)
- Video games (consoles) (Most have strong online integration)
- 3-D animation (in movies; games)

Digital on Virtual Private Networks

- Distance arts education in HD for point-to-point events

Digital technologies online

- Websites, HTML5, Semantic web
- Webcasting and live streaming
- Music streaming services
- Video on demand services
- Music and movie file downloads
- Mobile apps
- Mashups (application hybrids)

Digital peer-to-peer online platforms

- Facebook live video
- Youtube video
- Social video streaming (Periscope)
- Snapchat

Online communications

- Social media platforms
- Email, E-Newsletters
- Blog, website
- Search engines
- Crowdfunding
- Online games
- Intelligent personal assistant (e.g. Siri, Alexa)

Technology Trends 2017

A review of various sources[9,10,11] showed several common themes:

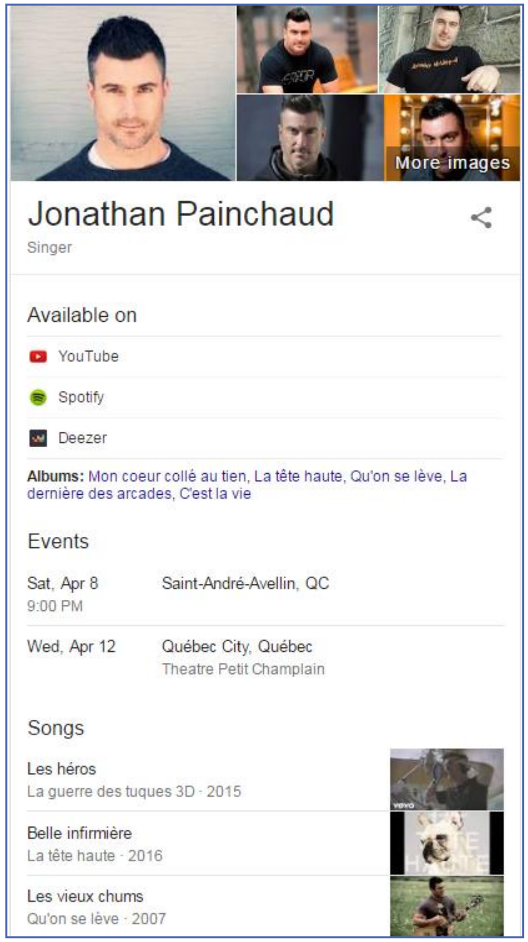
- Virtual Reality (e.g. Oculus) and Augmented Reality (e.g. Pokémon Go) will evolve a more robust eco-system of hardware, software and high quality content, with non-gaming applications growing more quickly than games.
- Artificial intelligence or machine learning will advance and move toward mainstream applications with potential uses in image recognition, natural-language processing, instant translation.
- Apps will fade in favour of services accessible over several devices and platforms, even as we will increasingly expect to get anything we need or want on-demand.
- Smart home devices will become better integrated and consolidate with a central control mechanism to generate the benefits of the Internet of Things, creating opportunities for new digital experiences from marketing to value-added content.
- Convergence of capabilities of various devices will continue and challenge the technology field to redefine how to measure and evaluate the health of the related industries.
- Marketing will continue to focus on automation, behavioural and contextual targeting (expect *Buy* buttons on social media sites).
- Marketing will also continue to focus on interactive content and rich media experiences from mobile video to streaming to chatbots.
- Search engines will increasingly serve the actual answer rather than a link to webpages, such as we see today with movie listings or restaurant information.

While specific technologies will shift until an industry standard is agreed on or a dominant market leader emerges that can impose their solutions, these trends should be durable in principle.

> *"Almost all of the many predictions now being made about 1996 hinge on the Internet's continuing exponential growth. But I predict the Internet will soon go spectacularly supernova and in 1996 catastrophically collapse." Robert Metcalfe, founder, 3Com, 1995*

Importantly, there have been significant advances in e-commerce-enabling innovations that may gain much greater importance as time passes and our lives and transactions are increasingly digitally oriented. In particular, *blockchain*, the technology behind the Bitcoin digital currency, represents a new method that enables secure peer-to-peer online transactions while keeping a permanent ledger of digital transactions. In the performing arts sector, the *blockchain* technology could serve several purposes. First, it could be used to attach smart contracts to electronic tickets and track secondary resale. These contracts could be designed either with a ceiling to resale above face-value or, alternatively, to give rights holders (e.g. the artist, producer and/or presenter) a share of the resale proceeds.[12] *Blockchain* can also attach copyright and neighbouring rights metadata to a file. This could prove to be useful for the rights management of filmed performances. In short, *blockchain* has the potential of capturing and distributing revenues across the entire arts presenting eco-system.

Similarly, at recent summits, we learned about the evolution of the semantic web. Semantic web is a standard of the World-Wide-Web Consortium (W3C) that bridges human-readable web contents with machine-readable metadata (data that provides information about data). It uses markups (semantic annotations) that describe elements of the content in detail (i.e., identifying an artist name and attaching it to a unique ID, converting a text-format date into a standard number-format date). That metadata can be linked to other metadata, and enable software to more precisely understand the meaning of content available online.



Semantic markups are code and as such aren't visible to web users, but they have a profound impact on what web users see (or not) when they search the web.

This Google search result for Jonathan Painchaud shows how the use of semantic web markup can shift search results from displaying links to web pages to serving content directly, from upcoming events to songs to the artist's social media presence and online streaming services.

Semantic web markups can transform the discoverability of contents over the web.

Connecting with Audiences Digitally

Connecting with audiences is a core competence of performing arts presenters, and it's arguably the area where presenters have used digitization most extensively. Presenters' websites are increasingly integrated with their social media presence, both from a marketing perspective and in terms of enhancing the audience experience with value-added information about performances. Many presenters have integrated online ticketing with their websites as well as regular enews programs for patrons.

IETM, the international network for contemporary performing arts, published *Live Performance in Digital Times* (2016). In this report, the author reflects on four categories into which the interaction between the audience and the artistic or cultural contents in digital environments can fall[13]:

- Access /information
  - Communications and marketing through websites, social media, email marketing, online ticket sales
- Learning/transmitting/sharing
  - Educational activities that are related to artistic experience and integrated in the online environment
- Discovering/testing
  - Audience watches a performance or video preview online in order to decide whether to attend a live show
- Creating/sharing
  - Audience participation in creative activities fostered by the arts organization including user-generated content

These ways to digitally connect with audiences are widely available in Canada. There are enhanced educational opportunities at Canada's major performing arts institutions from the National Arts Centre to National Ballet of Canada to the Stratford Festival. Tele-Québec's *La fabrique culturelle* encourages web users to discover new artists and gain an insider's view of their creative processes through rich web content and a streaming platform. Presenters and festivals routinely link to online video to sample upcoming performances. Some, from Société de musique contemporaine du Québec to Alianait Arts Festival in Nunavut, have experimented with live streaming their performances.

A key question for performing arts presenters in this digital age is "how do we leverage digital technologies to create more value-added connections with audiences (beyond digital marketing) before the performance, after the performance and in-between performances?" Could presenters become intermediaries for digital learning and discovery activities? In the analog world, presenters have been providing detailed program notes about the program they present; they organize activities such as post-show conversations with artists. New collaborations - with artists, their agents, ticketing providers, public institutions and new stakeholders - will likely be required to fully digitize these kinds of activities.

The focus for the presenting field tends to be placed on audience development or marketing. However, our view is that it is premature to relinquish a potential role of becoming the digital intermediary between artists and audiences.

In order to connect with audiences, performing arts presenters also need to know these audiences.

Audience research is another area in which collaboration and digital technologies offer interesting opportunities. These include ticketing data aggregation and user-generated data via platforms or applications. For example, in the United States and in the United Kingdom, digital tools enable performing arts organizations to pool and share their patron data.[14]

"We need to understand how and what the next wave of patronage will be like."
Consultation on Digital Innovation in the Performing Arts, May 2016

The topic of audience research was raised by participants both at our own May 2016 consultation and at the Canada Council's *Arts in Digital World Summit*. Participants expressed the need for more data on audiences' behavioural patterns. There is both a lack of data, and a lack of capacity to use audience data to inform artistic and marketing decisions. Participants would like accessible tools so that organizations of all sizes can share data, access data, understand data, and track data over time.

Digital in Performance: A Continuum

At present, we can delineate three main points on the digital performing arts continuum[15].

Live presentation in a venue

- Digital program notes by email or app or other mode
- Digital aspects in performance itself
- Augmented reality information

Live performance with digital performance add-ons

- Digital projection of live performance, e.g. outside the theatre
- Digital exhibit / installation in conjunction w performance (in lobby)
- Extend experience to online space (pre- & post- & during show)

Digital-only performance

Direct-to-audience, e.g.

- Online (live) streaming with added online content
- Virtual Reality, immersive environment, tactile, binaural
- Live stream point-to-point into a venue (can be a performing arts venue)

The following Canadian examples representing this continuum are linked to online content to showcase each of these experiences more effectively for the reader.

Life Reflected is an original multi-media performance developed by the National Arts Centre (NAC) Orchestra in Ottawa. This performance cycle included a project where the NAC worked with five Indigenous community youth groups to create a song in response to *I Lost My Talk* by Rita Joe, Mi'kmaq elder and poet. Each group created and uploaded a music video to YouTube.

NATIONAL ARTS CENTRE. *LIFE REFLECTED*: A MULTI-MEDIA CONCERT WITH LIVE ORCHESTRA. SCENE FROM *I LOST MY TALK* (POEM BY RITA JOE)

In 2017, the Available Light Film Festival (ALFF) in Whitehorse, Yukon, partnered with the Yukon Arts Centre to present three digital media installations to round out the public and industry series programming of Canadian and international films and live performing arts events.

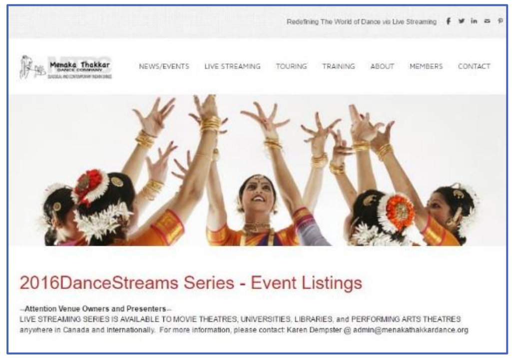
Presented in gallery and lobby spaces, attendees had the opportunity to sample artistic expressions crossing traditional artistic genres by digitizing dance, theatre and creating new kinds of animations. In addition, in 2017, ALFF entered a partnership with iTunes to make the festival's films available in its own channel in the hopes of amplifying its own and the films' success.

MAKE STRANGE BY MICHEL GIGNAC. A THEATRICAL INSTALLATION USING KINETIC ELECTRONICS AND PROJECTION.

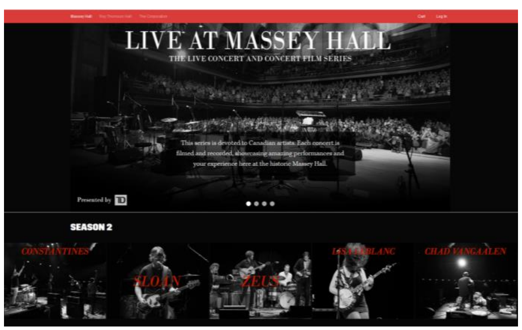
SECOND NATURE: FERAL BY VERONICA VERKLEY. A PROJECTED STOP MOTION ANIMATION AND ITS MINIATURE SET.

LOVE LETTER-DUET BY MONIQUE ROMEIKO. VIDEO INSTALLATION OF DANCE DUETS WITH COLLECTED LOVE LETTERS OVERLAID.

The [Menaka Thakkar Dance Company](), founded in 1978 in Toronto, has been pioneering point-to-point and live streaming of dance performances in recent years. In one of its projects it undertook a simulcast performance in Toronto, Canada and Mumbai, India where audiences were present in both venues. One part of the performance was performed before the live audience in Toronto and streamed to Mumbia with a second part in reverse. The company has been using live streaming for online dance training, festivals and symposia as an extension of its Nrtyakala School (founded in 1972), Menaka Thakkar Dance, and Kalanidhi Fine Arts International Dance Festivals.



Since 2014, the Corporation of Massey Hall and Roy Thomson Hall has been producing the [Live at Massey Hall]() series which is designed to support Canadian talent. Films include interviews and performance excerpts featuring artists who are at a milestone moment in their career. Total watch time for the series nears six million minutes. *Live at Massey Hall* has been financially supported by the Ontario Media Development Corporation and sponsors.



The [Stratford Festival]() developed a partnership to broadcast select performances live in Cineplex cinemas starting in 2015; the program is similar to the Metropolitan Opera's *Live in HD* program. It also uses live streaming and video-on-demand (VOD) to market its performances.

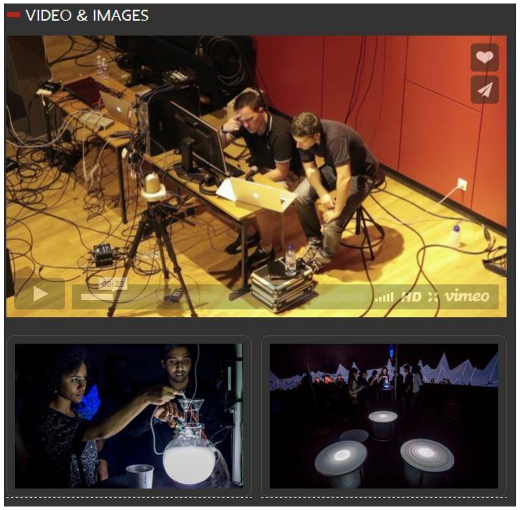
Specticast is Stratford's Cinema Event partner. [SpectiCast]() says that "it is one of the fastest growing producers, financiers, distributors and marketers of Event Cinema worldwide (...) [we] provide content rights holders with turnkey access to worldwide theatrical distribution as well as all downstream digital distribution platforms including DVD, VOD and TV."

The Stratford Festival also offers extensive digital content online for students, teachers and the interested public.

The Société des arts technologiques has developed *Scènes Ouvertes* (Open Stages). Supported by the Government of Quebec's *Digital Culture Plan*, this recent initiative aimed to connect 20 Quebec venues through a live digital creation lab. Claiming first-of-its-kind status, the networked venues have installed specialized equipment and multi-channel transmission software that allows for digital collaboration. The partnership "aims to create a space where broadcasters and producers can co-create, exchange and stage collaborative works." Through this initiative a number of digital performances have been developed and performed with international partners.

Cirque de Soleil is one of the international performance companies that are creating Virtual Reality experiences using 360° cameras. Created specifically for Gear VR these VR experiences repurpose existing shows, placing the viewer inside the performance space and leading them through the time and space of the show.

One important technology that is being integrated in Virtual Reality and other types of digital experiences is binaural recording of sound. This manner of recording creates a natural spatial experience of sound that makes the audience feel like they are literally there.



MISCIBLE FOR THE SOCIETY FOR ARTS AND TECHNOLOGY IN MONTREAL.

CIRQUE DE SOLEIL YOUTUBE TEASER FOR ZARKANA 360.

Platforms in the Arts

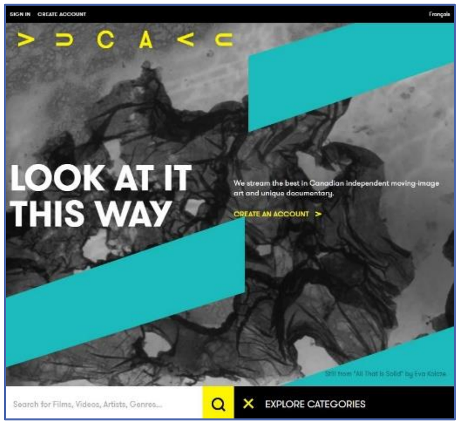
There are an increasing number of examples of platforms in early stages of deployment for the digital distribution of artistic content.

VUCAVU is a partnership of eight media arts distributors in Canada that banded together as the Coalition of Canadian Independent Media Arts Distributors in 2013. The coalition received $1.6 million in catalytic funding from Canada Council for the Arts in 2014 to develop a digital platform for independent Canadian works resulting in this video-on-demand service. The service is online now and looking to build a business model beyond rentals and expand adoption as a platform to other sectors.

Opera Europe built The Opera Platform as the online destination for the promotion and enjoyment of opera. According to its web site[16] it is a partnership between "Opera Europa, representing 155 opera companies and festivals; the cultural broadcasting channel ARTE; and 15 theatres from across Europe. It is supported by the European Union's Creative Europe fund. Content is streamed free of charge for six months with curated documentary materials.

Berlin Philharmonic has developed a digital concert hall in partnership with Sony and other technology companies to provide a subscription-based service via any digital device. It is available pre-installed as a free TV app, as a mobile app, or online. While this is a proprietary set up and not intended as a platform other organizations can use, it leverages its technology partner as platform provider.

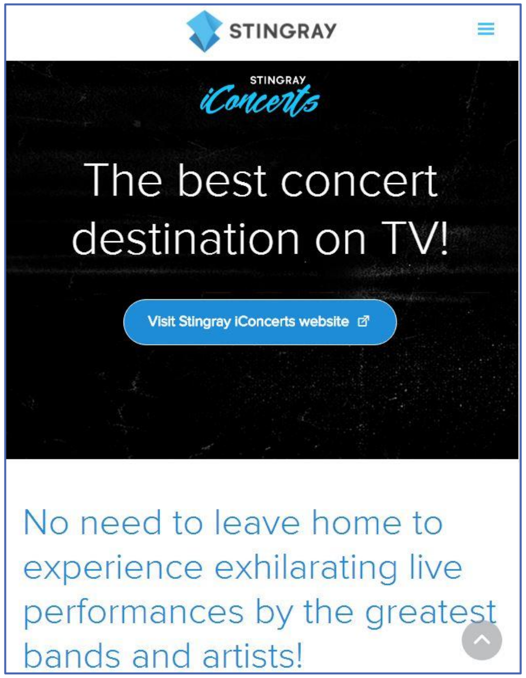
Jukely and Concert Window are live music online distributors using subscription and tipping respectively to generate revenue.



[Stingray Digital Group] is a business-to-business multiplatform music provider. In 2010, it acquired Concert TV. In 2014, Lite TV. In 2015, Brava and iConcerts. In 2016, the Much channels[17]. In 2017, it acquired Classica, which presents operas, ballets and concerts from the world's most renowned companies[18]. Stingray is poised to become the biggest player[19] in the world for digitized concerts: they now claim 400 million pay TV subscribers in 152 countries.

We can expect that with this concentration of digital channels, Stingray will likely build a significant influence on the live sector: what Canadians listen to on Stingray music and view on Stingray concert channels, they will eventually want to see in live shows.

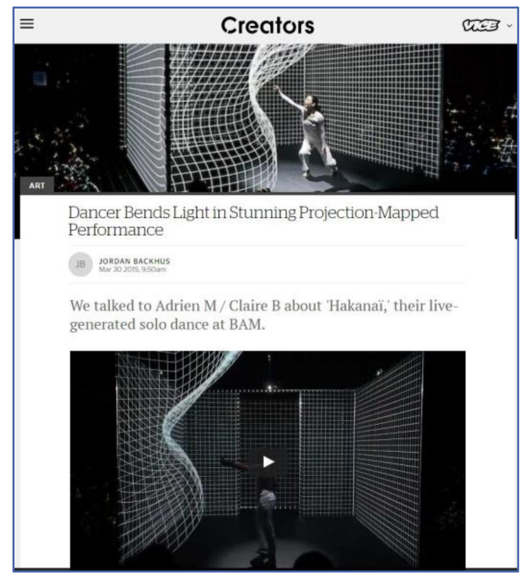
This level of consolidation is expected as technologies and markets gradually mature and create opportunities for greater market reach and gain large revenue shares during early phases of market development.



Howlround is a US-based theatre community knowledge commons that was created in 2011 and is based at Emerson College in Boston, Massachusetts. It is a space where resources, information and knowledge are freely contributed and used by theatre practitioners (with the appropriate creative commons attribution license) and it serves as a platform for dialogue.

It also includes Howlround.tv which livestreams theatre performances and events, as well as listings for events, residencies, and an interactive world theatre map.

Vice Media has developed Creators, an arts and culture platform that endeavours to make the creative process and art more accessible by "collecting emergent artistic practices and experiments." It features case studies of innovative digital technologies in art, music, film and design and it showcases works from around the world.



Future Trend: Holographic Technologies

A future trend that will be realized well beyond 2017 is the development of true 3-D holographic projection for the consumer market.

Meanwhile, numerous experiments that have approximated holographic imagery have used CGI (computer-generated imagery used to generate visual effects for movies) and older projection techniques. Most notable may be the American hip-hop artist Tupac's "hologram" that was projected at Coachella in 2012[20]. Similarly, Michael Jackson was resurrected in 2014 at the Billboard Awards[21].

Another example is [Hatsune Miku](), a virtual character that was created by Crypton Future Media as part of its sales strategy for a software voice synthesizer. [22] The character alongside several others performs at her own virtual 3-D concerts and draws legions of fans.

In 2011, [Mariah Carey](), performed via digital holographic projection in five venues simultaneously.

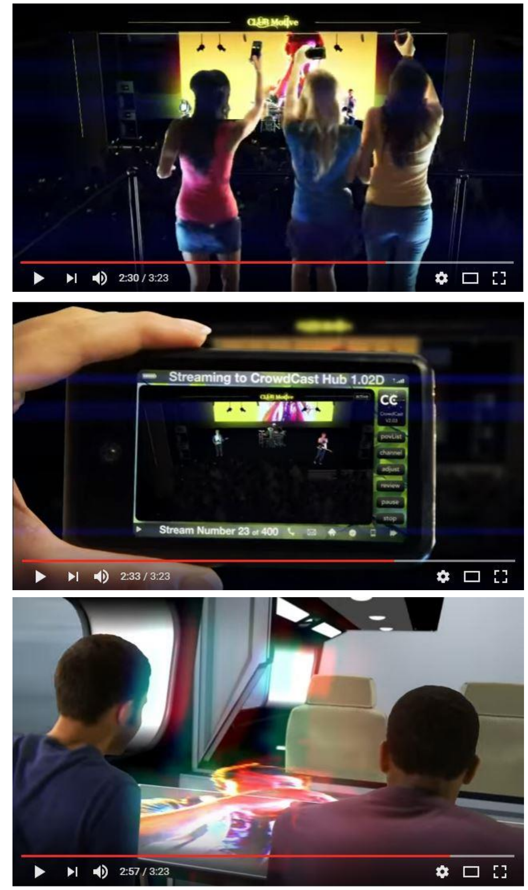
Many aspects of holographic technologies have been in development for some time and are being refined[23 24].

It is the evolution of holographic approximations and fully moving holograms that holds the potential to transport much of the live performing arts experiences toward a kinetic digital experience akin to a live performance. The eventual capacity to live stream holographic imagery in the same way that consumers can instantly share images and stream live video through mobile smart phones establishes a new frontier. This technology may hold the most dramatic potential for transformation in the performing arts and especially the digitization of theatre, dance, opera and similar other performance experiences in the longer term.

This [creative concept video](#) developed by an Ottawa-based creative advertising agency for Alcatel-Lucent in 2009, demonstrates powerfully a new technology vision. It shows a series of future LTE applications that were simply not possible in that way in 2009: from a truly connected car, e-health, [crowdcasting](#), mobile e-commerce, geolocation and a 3-D holographic livestream of a liver performance onto a moving train using a surface computer. In Canada the first LTE network was created in 2012, and today the majority of Canadians have access to LTE.

This type of visionary, innovative integration of live streaming, projection technology and marketing points to the commercial creative sector's artful inventiveness that merits attention throughout this work on digitizing the performing arts.

Of note, the [Center for Holographic Arts (HoloCenter)](#) in New York was founded in 1998 and is dedicated to the promotion and development of holographic arts work often focused on installations.



LTE NETWORK CONCEPT VIDEO

PART 4: LEARNING FROM OTHER SECTORS

Lessons from Book Publishing: Amazon

Canadian book publishing experienced significant disruption to its traditional business model as soon as the commercial Internet appeared. In 1995 the commercial restrictions on the Internet were lifted and Amazon began its online book store.

At the same time the Canada and US book trade was in the midst of a major consolidation phase[25]. Independent bookstores were increasingly under pressure from larger chain stores; smaller chains were absorbed by larger ones. Canadian publishers, many of them small, regional publishing houses, felt their financial situation turn tenuous.

Amazon with its initial model of online book sales, placing hundreds of thousands of books online without maintaining its own inventory, disrupted the publishing model further by forcing more independent booksellers out of business. Many publishers were not able to absorb the added financial strain and many consolidated with larger companies or closed. In place of professional publishers, and with the aid of computer layout programs, self-publishing has gained in popularity.

As digitization continued, publishers embraced digital formats for book production. The kindle, one of the most successful e-readers, was launched in 2007 by Amazon. It is a seamless platform for book buying and reading. As books are sold at a fraction of the cost of a printed version and thousands of books can be stored on one device the value proposition for books has evolved significantly. Importantly, especially smaller publishers' costs aren't as easily reduced.

Amazon today has disrupted not only book selling and publishing. It has been reinventing retail at a global digital scale. It has become one of the leading online retail platforms with more than 310 million active users globally in 2016 and reported sales of US $107 billion (2015).

Lessons learned: *1. It is never too early to get into new technologies and learning how to use them.*
2. Owning the digital platform is more powerful than traditional bricks and mortar infrastructure and refining traditional processes.
3. Developing digital extensions that continue to transform the user experience can solidify market control.
4. The potential for digital innovation is great when the platform itself can be further monetized.
5. Perfecting traditional skill sets does not ensure survival for all.

While the industry dynamics were disrupted, the readers experience was not adversely affected. A recent multi-mode qualitative and quantitative study on the value of books[26] showed very strong support among Canadians for books and reading:

- "Most Canadians (8 in 10) read books, averaging over five hours per week in reading."
- "About half of readers read e-books, with higher concentrations among younger readers although more than four in ten of the oldest cohort read some books digitally."
- "Focus groups indicated that Canadians read Canadian authors across genres like history, politics, and science fiction, and feel there are many good Canadian books to choose from; however, few deliberately try to read Canadian books, preferring instead to read "good books" that might happen to be Canadian. A few felt that there is a lack of diversity in Canadian literature and that they would read more Canadian books if there was more diversity of perspectives and segments of society represented."

Asked about the roles[27] of book publishers, respondents tended to focus on the printing and marketing functions, rather than publishers' work with authors editorially, quality assurance or design. It is clear that Canadians by and large do not fully understand the contributions of publishers to their reading experience.

***Lessons learned:** 6. Canadians generally know little about the depth of skill and expertise required to bring a book, a performance, produced at a professional level to them.*
7. They care about their own experience and whether they are satisfied with it.
8. Reading is at an all-time high, notwithstanding the losses of independent Canadian book publishers and booksellers.

Lessons from the Music Sector: iTunes

The Internet had a major disruptive effect on the music industry. The combination of MP3 compression for digital sound files created in 1993 and the advent of the commercial Internet in 1995 set off waves of innovation. Napster emerged as a pioneering peer-to-peer file sharing service for audio files in 1999. It quickly met with legal challenges from bands and music labels over copyright infringement and seized its operation in 2001.

While the music industry was focussed on shutting down illegal music transfers, others continued to innovate in the new digital space: iTunes by Apple launched in early 2001. iTunes was a radical new business model and created a new kind of music eco-system where digital recordings were unbundled and music rights owners received a royalty per song sold. Late in 2001, Apple launched its first iPod creating a distinctive digital playback device for music. As Apple opened up its proprietary iTunes to Windows-based systems sales exponentially increased. iTunes eventually morphed from a music store to a media management system including videos, movies, podcasts, books, apps and more. By 2013, Apple was controlling 75% of the digital download market worldwide[28].

Today the digital evolution continues. Subscription-based audio streaming services[29] – Sweden-based Spotify launched in 2008 and Apple Music launched in 2015 – have been gaining market share as the considerable legal issues related to content ownership and rights have been resolved. As such, analysts[30] expect that digital download will fall off and iTunes will eventually be shut down.

Lessons: *1. The traditional music business has been reshaped by the digital world, with labels having lost much of their power to online distributors, and musicians gaining the opportunity for direct access to fans through numerous digital marketing and distribution channels.*
2. While recording, digital downloads and streaming make up the greatest revenue streams in music in aggregate, live performance has regained considerable importance in the overall revenue mix.
3. Content creators, artists have difficult time negotiating terms with global companies.
4. Bandcamp.com is an effort to reclaim a fuller economic benefit of their recordings by artists, paying 80-85% of revenue to the artists, but to gain significant market share that can challenge the market leader is exceedingly difficult at this stage as they have a large, global and captive market and are better able to extend into new markets (e.g. streaming)

Lessons on Intermediaries in the Digital Economy

Many industries have been disrupted and new intermediaries – usually technology companies from outside the industry they are disrupting – have emerged.

- Amazon has had major impact on both book retailers and book publishers by redefining the supply chain while driving forward its retail innovation agenda through technology.
- Apple's iTunes redefined music buying and listening for the digital age by creating an effective legal download service. Apple continues to evolve its hardware and software service business effectively today.
- Online travel aggregator sites like Expedia have reshaped how we research, plan and buy travel. In the US, the number of travel agents declined from about 124,000 in 2000 to 74,000 in 2014[31].
- AirBnB has become a key web-based player in the "sharing economy" by empowering people to monetize their accommodations by hosting travellers, disrupting hotels and other commercial accommodations.
- Uber and Lyft, two app-based "sharing economy" transportation companies, empowered drivers to offer lifts in their private vehicles, disrupting the taxi industry and its municipal government licencing schema.

In these and other cases, it is not that there are no intermediaries in the digital world. It is that they are usually technology companies that have little regard for the industry structures they are disrupting. Rather they focus on the end user experience and reengineer systems to create a more convenient and often cheaper experience.

Platforms owners, rather than content creators have been gaining great benefit from their innovations:

- Amazon: US$100 billion in sales; 310 million active users.
- Apple: US$230 billion in sales; 1 billion users.
- Google: US$90 billion in sales; 2.2 billion users.
- Facebook: US$27 billion revenues; 1.9 billion users.
- Netflix achieved US$9 billion in sales; 94 million users.

Lessons: *1. To thrive in the digital world, the Canadian performing arts sector has to unite and learn to collaborate at digital scale. It has to consider dissemination platform ownership options rather than only focus on marketing or audience development. 2. The Canadian performing arts sector must also re-examine its user experience in light of successful user experience design in the digital world.*

Lessons on Content in Digital Economy

Media companies[32] have experienced some of the greatest continuous disruptions to their business models in the digital age. These companies have relied on a model where advertising revenues have paid for the creation and publishing or broadcast of quality content. But as content was made available online, an expectation of free content quickly set in among web users.

Much of the value of the Internet is realized by freely sharing all manner of content with an array of business models that allow for alternative way to generate revenue. Notably, Google, Facebook and others use advertising to monetize their free core services; yet media companies have not seen great success in monetizing their content online in that manner. One explanation may be scale. Another explanation may be related to the core business: content creation business is expensive and not nearly as easily scalable as adding capacity to a server farm.

Artists who reach a very large audience on video and music streaming platforms will get a small share of the platform's ad revenue for their content. However, it has been reported that the 1% most listened to artists capture 76% of revenues generated by streaming platforms. This trend may be exacerbated by search engine and recommendation algorithms.[33]

"If in the digital age it is not content that is king, but connection, we need support to understand how to make those connections, how do we monetize those connections and build new business models that help us unlock new value and ensure the fair compensation of the artists/creators and the members in the creative chain." – Dialogue on Digital Innovation in the Arts, October 2016

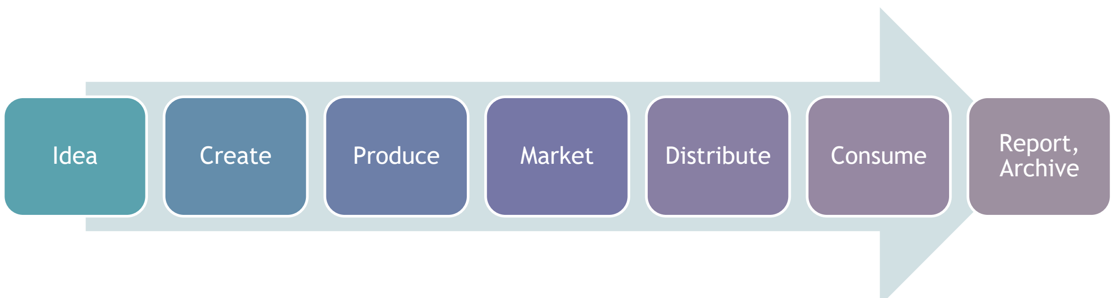
***Lesson:** While platforms are able to aggregate incremental revenue per interaction into significant revenue streams, individual content owners who use those platforms have great difficulty earning significant revenue.*

***Lessons:** It appears that in the digital world, there is a real danger to homogenize experiences toward fewer voices, rather than more, and more diverse, voices. For instance, is there an opportunity for live streaming or on-demand classical music concerts when everyone has access to the Berlin Philharmoniker versions already, one of the top orchestras in the world? In the Canadian context, ensuring equitable access and cultural diversity is critical to fostering a strong, resilient democracy and a more just society. It is important to guard against systemic exclusions or barriers that disproportionately affect specific populations.*

PART 5: PATHS FORWARD

Digital Requires New Collaborations and Partnerships

Digital technologies have become embedded in every facet of organizations and processes. They have also transformed every stage of the creation and presentation chain. The digital creative chain demands new skills, new knowledge, a redefining of the effort at various stages of the process, and new forms of collaboration.



The digital realm demands, for instance, an emphasis on developing scalable solutions, new ways of reaching and engaging audiences, secure e-commerce methods and perhaps a renewed focus on protecting privacy online.

In the performing arts eco-system this means a rethinking of the relationships of all members of the eco-system, from creators to production companies to venues. It means a rethinking of union contracts that have been designed for relatively limited physical productions without consideration for a digital world and its potentially global dissemination. It means a re-visioning of the role and function of traditional ticket system operators as a partner in new forms of value capture for the performing arts while evaluating non-ticketed monetization options for digital performing arts experiences. It means examining the role and function of arts service organizations that were built in the analog world and need to learn how to be effective in the digital realm as advocates, catalysts, conveners or aggregators of a new kind.

The Canadian performing arts presenting eco-system has been strongly oriented toward touring opportunities and its related infrastructures and processes. These include showcase and marketplace conferences, as well as block-booking. These services that have been typically provided by presenting networks.

Several proprietary online applications have been developed by presenting networks to assist with various aspects of the creation and presentation chain including showcasing, block-booking, and reporting. While some of these applications have been adopted by several presenting networks, there is no standard tool for all of Canada, and current tools used can't share data with one another. In addition, there is no tool currently that can handle both showcase applications and block-booking even though those two processes are closely related. As a consequence, artists and/or their touring agents find themselves having to manually enter the same information in several systems.

For example, "I Want to Showcase" is an application with a relatively wide user base (it is used by 15 networks in Canada and the United States), and it is deemed by agents to be very user-friendly. Yet, "I Want to Showcase" only handles showcase applications and it doesn't offer block-booking functionality for individual presenters and their networks. In an ideal world, core touring data (artist's name; creative, design and production team members; work/show title; technical information; show description) would be populated once and flow across the various steps of the creation and presenting chain: showcase application, block booking, programming, ticketing, marketing, and reporting.

An integrated end-to-end data system could begin at the creation phase with the adoption of better data management practices. It would for example benefit from the wide-spread adoption of semantic web standards, such as the International Standard Name Identifier, ISNI, a global standard that identifies contributors to creative works and those active in their distribution in order to ensure unambiguous attribution across the global supply chains for creative works.[34]

"This is really about solidarity. Solidarity in building. Not by discounting different perspectives, but by capitalizing on the shared values and major areas of consensus that transcend our specific situations, practices, environments, organizational scales, means and disciplines." [35] *Simon Brault, CEO, Canada Council for the Arts*

In a sector significantly affected by Baumol's cost disease, some productivity gains could be found by connecting or integrating digital support systems across all stages of the creation and presentation chain.

This theme of new types of collaboration and partnership has recurred at each dialogue we have undertaken within this project. Several key take-aways from a *Dialogue on Digital Innovation in the Arts* in October 2016 related to various facets:

> "We see a future where innovation and creativity could be nurtured in innovation labs spread across the country – hubs where the arts sector, creative industries and technology industry come together to drive knowledge, know-how, creation of new kinds of arts, creation of new business models to unlock new value for Canadians, as well as artists and creators."

> "We want equitable support for the development of digital strategies that are specific to the needs of individual organizations, artists and communities with subsequent investment to maximize digital capacity and infrastructure within arts organizations and foster the ability for organizations to connect and create communities of knowledge / communities of practice."

RadioPlayer Canada[36] *succeeded in a significant digital collaboration: 400 private, public, campus and community radio stations united to implement a single radio app. Combining their efforts, they created an opportunity to stand out and gain audiences that no individual organization could achieve by itself.*

If radio broadcasters can collaborate at this scale, what is keeping performing arts companies, presenters, festivals, and promoters to do the same?

Online Ticketing in a Changing Digital Environment

During our interviews and consultations, some participants claimed that online ticketing is operating under the same paradigm as bricks and mortar ticketing. It remains a siloed service that gives customers access to a limited number of live performances; and it is not connected to what is available in other ticketing systems. Online ticketing does not require a bricks and mortar ticket office, but it is usually attached to a single ticketing website and offers limited opportunities for integration besides website embedding. “Convenience” fees are sometimes so significant, that patrons find it more convenient to buy tickets at a physical location (that is, if they aren’t altogether discouraged by the fees). Finally, ticketing remains subject to a poorly regulated – and now digitally scalable – secondary market.

Several opportunities identified in this assessment either require the participation ticketing providers or apply to their business model. Ticketing providers could:

- Participate in a semantic web data strategy by using the same data structure and event markups agreed upon by the performing arts sector in Canada and abroad.
- Attach smart contracts to electronic tickets using *blockchain* technology, in order to more fairly distribute the value captured by the resale market, and/or to monetize new values.
- Open up connections across ticketing platforms.
- Evolve new ways of selling tickets in a digital world, for instance using chat applications, through social media, directly through web browsers, via intelligent personal assistants.

In addition, much of the value capture of culture now takes the form of user data – and much user data in the performing arts is captured at the point of transaction. As stakeholders whose business model is predicated on the health of the live arts sector, ticketing providers should have an interest in collaborating with presenting organizations to deepen each party’s knowledge of arts audiences. This implies, for instance, adapting terms and conditions of service contracts and of ticket sales to facilitate data sharing, in accordance with Canada’s privacy legislation.

New Digital Knowledge and Capabilities

Digital creation and playback devices or mechanisms have to be aligned to enable presentation of digital experiences. Today the theatre venue is a well-known platform and tech riders are effective ways to ensure a production is mounted as intended. Similar standards have to be developed in the digital creation and production process.

Digital technologies create extensive opportunities to generate and use data. From search engines that enable web users to find content to digital archiving of that content, metadata that is consistent and conforms to standards such as the semantic web will become critically important. The earlier in the creation process data and metadata opportunities are located and executed, the more consistent and discoverable that data can become. Soon we will be able to search video using metadata markers and arrive at the moment in the video to which the relevant keyword is coded.

"A brand new sectoral hygiene is required for metadata and discoverability." Jean-Robert Bisaillon, Forum Numérique et arts de la scène[37]

Building digital audiences across Canada and globally will require different marketing know-how and tactics than when presenters have been considering developing audience in their local geography.

In the digital world, we can gain far more detailed information about users. Ensuring that people in the live arts eco-system receive training and have the capability to capture and act upon user data will be critical.

Updating the definition of the roles and skills in the performing arts eco-system will be important to ensure relevance pro-actively.

There is a clear need to foster deeper conversations within the presenting field about its desired digital future as a way to lead people toward this emerging shift toward digital. And to move toward building skills and capacity that take advantage of the full spectrum of digital opportunities.

NEXT STEPS

It is not the purpose of this assessment to be prescriptive as to what the performing arts presentation sector should do next. With the benefit of this assessment, the authors hope to galvanize an increasing sense of urgency for concerted action and to shape the future of the live performing arts in Canada and digitized performing arts experiences in Canada and the world. To that end, we propose these next steps:

- Convene and facilitate a community for digital innovation in the Performing Arts. This could involve hybrid live / digital gatherings with technology experts to evaluate priorities for action spanning from enhancing digital innovations for live performance, audience experience design and marketing to envisioning a fully digitized performing arts eco-system with new types of collaborative partnerships and new kinds of technology backbones.
- Develop a digital action plan for the performing arts sector that specifies key initiatives for the next two to five years to position the performing arts / presenting sector for sustained success and relevance in the digital world.
- Develop and implement a comprehensive data strategy for the generation, circulation, and connection of data and metadata across all steps of the performing arts creation chain.
- Foster a deeper culture of collaboration by building new kinds of partnerships for the digital world with the performing arts eco-system including unions (creators, stage craft), venues, suppliers and funders.
- Develop a digital bootcamp training program to build significant capacity throughout performing arts organizations/presenting organizations with a focus on emerging digital technologies.
- Develop and test sector-wide business models for digitizing the performing arts with a focus on the blank spaces, e.g. dance and theatre rather than music, and emergent technologies, e.g. 3-D/holographic/Virtual Reality rather than already existing 2-D, broadcast-based distribution.

*The **Digital Innovation Council for the Performing Arts** intends to continue the dialogue on the digitization of the performing arts, and to be catalyst for visionary, collaborative, trans-disciplinary initiatives that will enable the Canadian performing arts presenting eco-system to thrive in a digital world.*

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