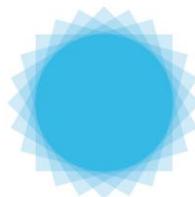# Digital Transitions and the Impact of New Technology On the Arts

Prepared by David Poole with assistance from Sophie Le-Phat Ho

For the Canadian Public Arts Funders (CPAF) network

June 2011

CPAF OPSAC
Canadian   Organismes publics
Public Arts   de soutien aux arts
Funders   du Canada

Note to the reader from the CPAF Secretariat

Please note that this report was commissioned by the Canadian Public Arts Funders (CPAF) as a discussion paper for a meeting of Executive Directors of the 14 members of CPAF which took place in Gatineau, Québec on March 10th, 2011.

It was intended to serve as a point of departure for a debate and as a snapshot of some of the key issues concerning the ever-changing 'digital transition' in the arts.

The views expressed by consultant David Poole are based on his interpretations from a variety of sources of information and do not necessarily represent all points of view, or the current program structures, of the membership of CPAF.

The reader is invited to provide feedback to this report by contacting Melanie Yugo, Partnership and Networks Officer, CPAF Secretariat, at melanie.yugo@canadacouncil.ca or 1 800 263 5588 ext 5144.

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Executive Summary

Background

This report was commissioned by the Canadian Public Arts Funders (CPAF) network, which brings together executive directors/CEOs, board chairs and staff from the Canada Council and each of the 13 provincial and territorial arts councils or equivalent public art funders across Canada.

The objectives of the report were to provide an overview of current knowledge on the theme of digital transition and the impact of new technology on the arts in order to suggest how changes in the arts and society brought about by digital technologies affect Canadian public arts funders. A preliminary version of the report was presented to a CPAF professional development meeting of Executive Directors on March 10, 2011.

Key Findings

The electronic, networked and interactive nature of the digital world has a significant impact on the arts. Special significance must be placed on the impact of networks and interactivity, as they open up new possibilities for dissemination and public engagement with artwork.

The digital world is not static and is continuing to experience very rapid development. At the moment, attention is focussed on the impact of social media which allow for the creation and exchange of user-generated content and provide a structure for people to get organized, exchange and collaborate. Social media can have an impact on the arts from at least three different perspectives: helping to bring audiences to performances and to artworks by matching art to people who are looking for it, providing a platform to create art and carry on dialogue and debates around communities of interest and giving organizations tools to listen to the public and build arts awareness.

At the moment, the majority of applications to arts funders from artists and arts organizations continue to be for artwork that is not heavily influenced by digital technologies, but interest in using these technologies has been growing very rapidly in recent years.

Artistic disciplines and practices have different dimensions in their relationship to digital technology. There are art forms that exist because of technology (digital arts practices and film, video) and art forms that are influenced by technology (new distribution means for music, e-books in publishing, live performing arts). This study looks at all of these areas and does not focus on digital arts.

To date, new digital technologies have had their deepest impact on production and dissemination practices in disciplines and practices outside the performing arts. Writing and publishing, music, media arts (film and video and new media) and visual arts all have practices involving the production of physical objects which are distributed to the public (books, recordings, films, tapes, photographs, etc.) The digital transition allows artists to replace physical objects with electronic files and to displace distribution over time and between places with instantaneous distribution over networks.

Non-commercial authors, creators and musicians release their work through the many of the same companies and along many of the same channels as commercial authors, creators and musicians and have experienced the impact of changes in these cultural industries, especially in terms of online dissemination.

Canadian copyright legislation needs updating to be effective and relevant in a digital age. While it is acknowledged that legislation must balance the rights of creators to be compensated for the use of their work and the desire of audiences to have access to work, the balancing point is difficult to establish in the arts where some remix practices challenge compensation rights.

The websites of very few arts organizations appear to be reaching large audiences online. As a result, the reach of the content that is currently being provided by them online is limited. However, many commentators do not feel it is necessary to attract large online audiences, concentrating on the importance of reaching the niche audiences that exist for different artforms. Social media are understood to be effective tools to discover these audiences.

Surveys in England suggest that people who are most engaged in the arts already are most likely to explore art online. For less arts engaged audiences, there is no sense that they are inspired to get more involved in the arts through the Internet, although it is seen as a useful resource. The Internet is unlikely to 'convert' those who are currently uninterested in the arts.

The same surveys report that most members of the public say that they would refuse to pay for arts online and suggest that persuading people to pay for arts online will require guarantees of exclusive content and consistent quality.

Many Canadian public arts funders have programs or program components dealing with digital arts and some have or are developing program components to deal with the impact of digital technologies on other art forms (digital literature, etc.)

The majority of funders are moving to take their application processes online over the next three to six years, many as part of more comprehensive electronic file

management systems integrating file tracking, evaluation, payment, reporting and storage of basic information.

Most funders are interested in using social media more effectively to communicate with artists and the public. They are concerned about the resources required to do so and about policies and guidelines to govern their staffs' use of social media.

Some key questions for funders are:

- Do they recognize and are they responsive to the ways in which artists work in the digital environment?
- Do they recognize art practices that develop or change because of possibilities presented by digital technologies?
- How do they recognize the professionalism of artists if the roles of traditional indicators of professionalism (acceptance by gatekeepers, use of professional tools) are diminished?
- Are they tracking and accommodating the changing roles of infrastructure organizations (artist-run centres, publishers, recording studios, etc.) in light of digital technologies?

Digital Transitions and the Impact of New Technology on the Arts

A. INTRODUCTION

The ways in which art is created, produced, distributed, marketed, preserved and supported are shifting – in some instances transformed – in relation to the transition to a digital society. This report is intended to help Canadian public arts funders better understand how the transition to a digital society has an impact on the arts, in order to guide them as they develop strategies to ensure that the arts sector is not left behind in the digital age.

This report was commissioned by the Canadian Public Arts Funders (CPAF) network, which brings together executive directors/CEOs, board chairs and staff from the Canada Council and each of the 13 provincial and territorial arts councils or equivalent public art funders across Canada.

Objectives

The objectives of the project were to:

- Provide an overview of current knowledge on the theme of *digital transition and the impact of new technology on the arts*;
- Determine how changes in the arts and society brought about by digital technologies affect Canadian public arts funders;
- Inform the deliberations of a CPAF professional development meeting of Executive Directors on March 10, 2011.

The project was intended to address the following key questions:

- What opportunities and challenges is the digital transition creating for the arts (artists, arts organizations, arts funders) and the public?
- How are digital technologies changing the context in which the arts (artists, arts organizations, arts funders) and the public operate?

Approach and methodology

Early in the project, a working group of CPAF members agreed to focus the project on digital technologies and helped shape the scope of the research, emphasizing its concentration on the arts. They also reinforced that the report should provide information relating to the different arts disciplines/practices and should cover creation, production and the ways in which work reaches the public.

Throughout the project, the consultant worked with Sophie Le-Phat Ho, a researcher who reviewed French-language material and carried out interviews in French. The consultant concentrated on material written in English.

The consultant and researcher:

(i) Researched and reviewed publicly-released material from Canadian and international sources. The review focussed on books, articles, websites and blogs relating to the impact of new technologies on the arts and included material from sources in government, colleges and universities, the research departments of international funding agencies and from artists' organizations. Given the rapidly changing nature of the digital world, it was decided to concentrate on material dating from 2007 or later. The sources were Canadian and international, with the majority of the international material from the United States, the United Kingdom and Australia. The information gathered through the literature review informs the bulk of this report. A bibliography of material which was reviewed is included in this report.

(ii) Consulted with people knowledgeable in the field. Many thinkers, writers and administrators in Canada and abroad have thought and written about the impact of new technologies on the arts for the past few years. We sent questionnaires to ten of them and interviewed two of them to elicit information and opinions on action that should be taken by artists and arts institutions in light of new technologies. The response rate to these questionnaires was 30 %.

(iii) Synthesized information. Information gathered through the literature review and responses from thinkers was organized by discipline and practices as well as also along themes that emerged out of the research. The organization of this material is described in greater detail in the Structure of the Report.

(iv) Collected information on how CPAF members are responding to digital technologies. Canadian Public Arts Funders (CPAF) network members were surveyed in e-mail questionnaires sent to all members and, in the case of two agencies, through interviews with staff. The funders were asked to describe their current activities and plans relating to digital technologies and to

contribute their knowledge on the impact of digital technologies on artists and arts organizations.

Structure of the Report

Given the amount of information about the digital world, the rapid pace of change and the need for information on a timely basis, it was decided to base the report on a description of the characteristics of the digital world, to concentrate on the role social media is playing at this time and to look at issues from the point of view of artists and arts organizations as well as from the perspective of the public as they engage with artwork using digital technologies. From this basis, the following structure was developed for the report:

- Frame how the term "digital technologies" is used in the report.
- Outline the characteristics of the digital world, making a distinction before core characteristics and those that have been influenced by societies and economies.
- Outline the roles of social media and the arts.
- Summarize how digital technologies have an impact on different arts disciplines and practices in terms of creation, production, and reaching an audience.
- Examine challenges and opportunities that cut across disciplines/practices.
- Suggest the extent to which digital technologies are used by arts organizations.
- Summarize how the public use digital technologies, especially networks, in relation to the arts.
- Summarize what Canadian arts funders are doing to deal with the challenges and opportunities of digital technologies.
- Suggest key questions arts funders need to ask to respond to the opportunities and challenges presented by digital technologies.

B. HOW THE TERM 'DIGITAL TECHNOLOGIES' IS USED IN THE REPORT

The term "new technology" can be used to encompass a range of technologies, from robotics to biotechnology, which have had some influence on the arts in recent years. In consultation with the working group for the report, it was decided to that this study should concentrate on digital technologies, as they have had by far the greatest impact on both the arts and the public.

In material we sent to artists and arts funders, we described digital technologies as "technologies that allow information and processes to be created and stored in digital form, with the possibility of distribution over electronic networks". Most respondents

were comfortable with this description, but some artists and educators emphasized that it's harder today to describe digital technologies in a way that excludes networks. Taking their advice into account, this study pays special attention to the influence of digital networks on the arts.

C. INHERENT/CORE CHARACTERISTICS OF THE DIGITAL WORLD

Some of the characteristics of the digital world are inherent in the very nature of digital processes and, in and of themselves, have had a significant impact on the arts.

Electronic

- *Material is in electronic rather than physical form.* There does not have to be a physical object (book, painting, photograph, recording, etc.) for something to exist as an artwork.
- *An artwork may be created by recording events in the physical world, by manipulating or remixing electronic information or by combining these processes.* Consequently, it may be difficult to distinguish between what is recorded and what is fabricated. (For example, in film and video, it may be difficult to distinguish between material created through cinematography and computer-generated graphics).
- *A digital copy of an artwork may be indistinguishable from a digital original and very close in quality to a non-digital original.*
- *Since digitally-stored artwork occupies little space as compared to physical artwork, there are few physical limits to how much artwork can be stored. If appropriate storage and playback facilities are maintained, artwork can be kept and accessed for very long periods of time.* This has had a significant impact on selling patterns for books, films and music recordings, where the costs associated with maintaining large backlists have been reduced.

Networked

- Because material is in electronic form it can be moved over worldwide electronic networks, including the Internet (a network of networks, one of which is the World Wide Web) and mobile networks.
- As soon as artwork is on a network it is available instantaneously wherever the network reaches.
- Once artwork is on a network it has the potential to be made available in different formats and at different times. As David Neale, senior vice president of Products

and Services at TELUS, says: "My son still watches prime time TV. But he just doesn't watch it in prime time. And he doesn't watch it on TV."

- Networks allow information about one type of content to interact with other types of digital content. (For example, photos and GPS locations)
- A network is not just a place where work can be seen, it can be a shared space for creating work.

Interconnected

- Unlike radio and television, where information moves from a broadcaster to an audience, information on the Internet can move between many points. For the arts this has a number of implications. If an artwork is open to modification, a number or artists may collaborate on the artwork from multiple locations simultaneously or at different times. The public may interact with an artwork by responding to it directly or through online communities. They may comment on the work, critique it, recommend it and find out where to buy it or pass it on to others.
- Inter-connectivity also makes it possible to track who is receiving information and to have accurate information on what is seen and what is ignored.

D. THE DEVELOPMENT OF DIGITAL TECHNOLOGIES

Over the past three decades we have witnessed rapid developments and advances in hardware (personal computers, mobile phones, recording/playback/control equipment) software/applications (search software, graphic manipulation software, etc.) and networks (Internet and mobile telephone). The costs of basic digital hardware/software have been stabilizing while their power has been increasing, putting basic digital hardware and software within the financial reach of many artists. These developments were heavily influenced by the economic and social conditions in which they took place, which means that some will continue while others are likely to be challenged or reversed.

Among trends which appear to be ongoing are:

- The number of people with access to the Internet and mobile networks has been increasing and the reach of networks is expanding beyond developed nations, although a digital divide still remains in Canada, especially in the North and rural communities. The estimated global population of Internet users in June, 2010 was 1.97 billion.

- The capacity of memory devices and networks and the speed of delivery of information (bandwidth) are increasing. In 2025, based on current growth in hard drive capacity, it is estimated that a mobile handset will be capable of holding every movie of any length ever made. However, current trends suggest it is more likely that information will be stored remotely and accessed via networks.
- The amount of material available in digital form has been increasing, with more of it available on networks.

The areas in which development trends may change include:

- The Internet developed from roots as an open platform for sharing scientific research and Internet. While many, especially artists working in the Open Source community, believe that access to the Internet should remain open, there is increasing pressure to control access. As some commentators have noted, the Internet is not inherently an open platform. "...many of its central features could easily be regulated, legislated or competed out of existence ..... this is true of interoperability, open standards, anonymity and many other things that once seemed to define the medium." In the United States we are seeing efforts to develop an "off switch" for the Internet arising out of national security concerns and recent world events make it clear that some national governments exercise effective control over Internet access by their citizens.
- Given that information exchange on the Internet (uploading, downloading, file sharing) has been free, there is strong resistance to paying for material downloaded from the Internet. We have witnessed a dramatic structural shift in the expectations of the public, which now expects anything that can be digitized to be digital—and usually free. This has had immediate implications for artists trying to sell digital material over the Internet, implications which will be dealt with in greater detail in the discipline/practices descriptions that follow. However, given the extent to which the Internet is becoming a factor in many national economies, it is clear that pressure will increase to commercialize the Internet. The impact on artists who have become accustomed to free Internet services to produce or distribute their work is unclear.
- After a period of expansion and rapid turnover in the 2000's, some stability has been established in segments of the commercial digital world. Content aggregators such as iTunes and Amazon, web browsers such as Firefox, search engines such as Google and operating systems like Linux, Windows and Mac OS have staked out significant positions in the digital landscape. To date, stability has been greatest in what has been described as the Web 1.0 world, characterized by centralized sources placing material on the Internet and a distributed set of users finding it. But we are experiencing rapid change and relatively lower levels of stability in the Web 2.0 world of social media, where

Facebook, Twitter, and YouTube may be ongoing phenomena or may be replaced by more powerful and appealing platforms. As the American technology research company Gartner has noted, the introduction, acceptance or rejection of new technologies can be plotted along a Hype Curve and not all heavily hyped new technologies are successful. It may be useful for administrators dealing with an onslaught of new technologies to plot where the technology lies on the Hype Curve before adopting it. The Hype Curve is described in greater detail in Annex 1.

- The world of digital networks is dynamic. Just as Web 2.0 complements but does not replace earlier uses of the Internet, new networks are being developed. Some forecasters predict networks allowing for greater integration of networks and devices that are not currently connected. We are already experiencing more integration of information from the Internet and GPS systems on mobile devices, making it possible to focus a user's Internet experience on their location. Given advances in the ability of computing devices to "understand" the meaning of information it is predicted that future networks will allow for material to be aggregated by what a computer "knows" about the user. There are already basic versions of this "semantic web" on the horizon in applications that allow a web search to be narrowed and personalized by information from the user's social networking profile – meaning that search results depend on who is doing the searching.

E. SOCIAL MEDIA AND THEIR IMPORTANCE FOR THE ARTS

Social media use web-based and mobile technologies to turn communication into interactive dialogue, allowing for the creation and exchange of user-generated content and providing a structure for people to get organized, exchange and collaborate. Social media allow for interaction on a global scale, make it possible for users to add content or commentary and to form groups quickly.

At the moment, some of the social media tools with which we are most familiar are: online social networks (Facebook, MySpace, etc.), blogs, micro-blogs (Twitter, etc.), sharing sites (YouTube, Flickr, etc.), podcasts, wikis (Wikipedia, etc.) and widgets /apps such as those available for mobile devices.

Social media have an impact on the arts from at least three different perspectives. They help bring audiences to performances and to artworks by matching art to people who are looking for it, they provide a platform to create art and to engage in debate and

dialogue around communities of interest and they give organizations tools to listen to the public and build arts awareness.

(i)   Matching artwork to the public

Digital production and online distribution allow artists to by-pass traditional gatekeepers (recording companies, magazine publishers, bookstores, video rental stores, etc.) by placing work online directly. As many writers have noted, among them Mitch Joel in his book Six Pixels of Separation, the relative ease of placing material online has resulted in overabundance. "People (including artists) have been given a powerful and mostly free platform to share ideas with the world – and are doing so in droves." "At last glance, if the numbers are accurate, every sixty seconds more than eight hours of new video content is being uploaded to YouTube. That's about 11,500 hours of new video content every day. If you lived the rest of your life online, you could never see, hear, and read all of the content out there." As Joel also points out, the range of material that is available online is expanding too. "Suddenly everything has become content. A statement like "Doing the laundry" posted to Twitter is now content. In this new world, everything we create can be used as content." The question for artists and arts organizations becomes, "How do we get the public to notice us online with all this stuff out there?"

So, just as artists and arts organizations should be finding it easier to reach the public directly, they find themselves awash in a sea of content. Current writing suggests that social media provide important tools to help artists reach their audiences in this situation, predicated on the assumption that there is no longer a mass market but rather a collection of niche markets. In this view, audiences have fragmented and are not necessarily larger or smaller, just more diffuse. Social media are regarded as powerful because they allow artists to reach the specific audiences that are interested in what the artists make.

This is because social networking sites like Facebook and Twitter encourage people with similar interests to link up and follow each other. An opinion or a review on one of these sites is likely to fall on receptive ears, just as a link to a video or a book is likely to find an audience. As Joel notes, "It's the perfect dream for advertising: Match your products and services up to consumers who are looking for them."

The following sections on different arts disciplines and practices give more detail on how artists and organizations use social media, but there are two general trends. Musicians, writers, video artists and other artists who produce work that can reach the public directly through networks tend to use social media to cut through the mass of online material to bring potential audiences to their work (For example, by interacting

with online communities that may be interested in the subject of a video or in the particular musical genre in which the artist works.)

Others, most significantly performing arts organizations, use social media to bring audiences to their performances by linking to groups they know to be interested in their art form and by providing platforms that give audience members enriched material on the performances

(ii)   Creation in communities of interest

Online, collective and engaged arts communities were among the first to use social media technologies and also contributed to creating and developing them. Social media platforms and Free Libre and Open Source Software (FLOSS) are widely used by smaller arts organizations (artist-run centres, art collectives, networks, etc.) as they are accessible, user-friendly and free or low-cost. Operating from a common understanding that openness facilitates creativity, arts communities that embrace FLOSS often share values about accessibility. They place an emphasis on skill-sharing online (via forums, mailing lists, etc.) but also in person through workshops and public show-and-tells or jam sessions. Within these communities, recurrent events such as Upgrades, DorkBots and Pecha Kuchas feature knowledge sharing and networking among artists and/or technology professionals.

While commercial social networks such as Facebook, Twitter and LinkedIn are ubiquitous across arts organizations, engaged and collective organizations also tend to use peer-to-peer networks, which are based on decentralized models. Here, the notion of peer-to-peer has spread beyond music and movie sharing sites to peer-to-peer funding (e.g. Kickstarter) and to wikis, which allow for collaborative writing/editing and participation.

(iii)   Listening to the public and building arts awareness

Social media tools can be used to enhance and complement the existing communications activities of an organization. Given that many of these tools provide for two-way communication, they can be used in both active and passive ways: to send out messages, engage and gather feedback or monitor commentary. Many social media channels include built-in metrics so they can also be used for measurement and reporting. Social media can help to monitor an organization's reputation, listen to artists and other stakeholders, gather feedback, raise awareness, and enhance distribution and visibility.

The Long Tail

Many discussions of the role of social media in reaching niche audiences mention the theory of the Long Tail. The Long Tail's relevance to the online environment was suggested by Chris Anderson in an October 2004 *Wired* magazine article and described in more detail in his book *The Long Tail: Why the Future of Business Is Selling Less of More.*

In traditional retail there is a rule of thumb that 80% of sales are made on 20% of stock. Retailers selling physical stock have limited storage and display space and relatively high shipping costs and want to give the most prominent display space to the 20% of their stock that they hope will be "hits". In the online world there is no physical stock and distribution is electronic, so almost everything that is made can be stored, displayed and distributed at lower cost.

The Long Tail idea has gained popularity in the online environment as describing the strategy of selling small volumes of hard-to-find items to many customers instead of selling large volumes of a relatively small group of popular items. The total sale of the "non-hit items" is called the *Long Tail.*

In Chris Anderson's own words the theory of the long tail can be boiled down to: "... culture and economy are increasingly shifting away from a focus on a relatively small number of hits (mainstream products and markets) at the head of the demand curve, and moving toward a huge number of niches in the tail. In an era without the constraints of limited shelf space and other bottlenecks of distribution, narrowly targeted goods and services can be as economically viable as mainstream fare." (Anderson 2007, p. 52)

The Long Tail theory finds its way into discussions of social media because social media are seen as tools for potential audiences to navigate through the overwhelming amount of material available online in order to find unique, "non-hit" items in the long tail - items such as recordings, writing, videos and other artwork.

However, some critics have pointed out that, while "Chris Anderson is right to say the infinite space of the Internet will afford more and more opportunities for niche programming, ... the downside of this will ensure that such niches generate less and less revenue." (Julia de Roeper and Susan Luckman, *Future Audiences for Australian Stories*, 2009). The long tail may simply mean that an artist can get visibility for themselves and their work, but it does not necessarily suggest a viable revenue source.

F. IMPACT BY ARTISTIC DISCIPLINE/PRACTICE

Introduction

Increasing interest - The staff of two CPAF member organizations we interviewed emphasized that the majority of applications from artists and arts organizations continue to be for approaches which are not heavily influenced by digital technologies. Artists are still writing books, making films and using traditional media. At present, they estimated, between five and ten percent of project proposals made to arts funders involve working in ways that are heavily influenced by digital technologies. However, they also emphasized that interest in using these technologies has been growing very rapidly in recent years.
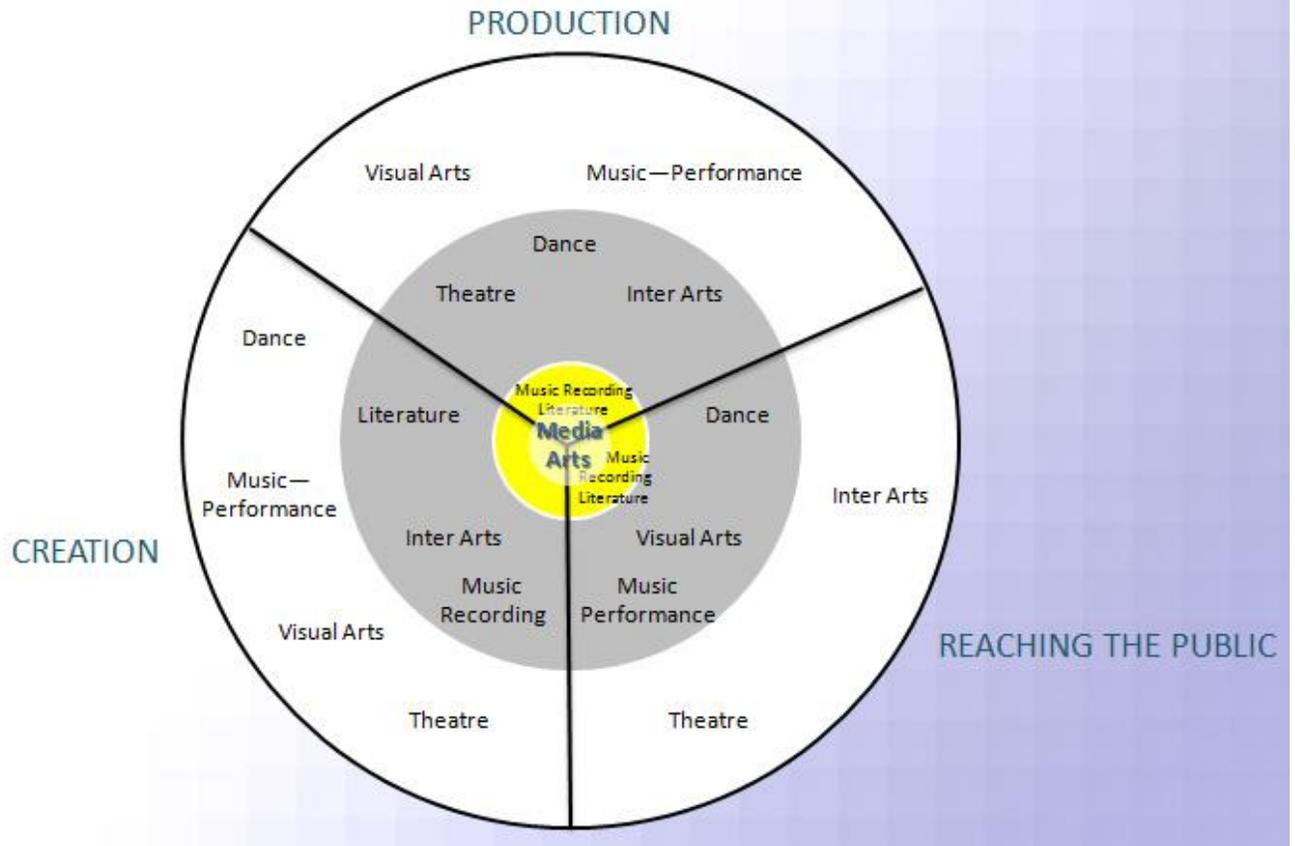
Relationship to digital technology - Artistic disciplines and practices have different dimensions in their relationship to technology. There are art forms that exist because of technology (digital arts practices and film, video in the media arts) and art forms that are enhanced by technology (new distribution means for music, e-books in writing and publishing, live performing arts). This study looks at all of these areas and does not focus on digital arts.

Overview of impact - To date, new digital technologies have had their deepest impact on production and dissemination practices in disciplines and practices outside the performing arts. Writing and publishing, music, film and video and visual arts all have practices involving the production of physical objects which are distributed to the public (books, recordings, films, tapes, photographs, etc.) The digital transition allows artists to replace physical objects with electronic files and to displace distribution over time and between places with instantaneous distribution over networks. The graphic on the following page provides an overview of the current impact of digital technologies on different artistic disciplines, practices and activities in Canada.

How the read the graphic and tables

Based on our reading and research, we have assigned impact values of low, medium or high and colour-coded the graphic accordingly. The colour-coding carries over onto the tables on the following pages, which describe in more detail where digital technologies are having an impact in arts disciplines and practices supported by Canadian public arts funders.

In the tables there is no relation between the information in one column and the information in the same row of the column beside it.

PRODUCTION

CREATION

REACHING THE PUBLIC

Visual Arts　　Music—Performance

Dance

Theatre　　Inter Arts

Dance

Music Recording
Literature
Media Arts　Music Recording Literature

Literature　　　　　Dance

Music—Performance

Inter Arts　　Visual Arts

Inter Arts

Music Recording　Music Performance

Visual Arts

Theatre　　Theatre

Impact of Digital Technologies:　|.....| Low　　|.....| Medium　　|.....| High

Media Arts - Digital Arts/Digital Media/New Media/Interactive Media

General Observations: Digital arts/digital media/new media/interactive media are arts practices that exist because of digital technologies. The practices are so new that there is not yet a commonly accepted name to describe them. They include artists` web work, interactive media, games, interactive installations, and practices that are created as new technologies emerge.

Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
The subject of a lot of new media artwork is new media – critiquing the way it is developing, subverting standard practices and inventing new practices and platforms.	Artists do not always use pre-existing production platforms, often developing the software and hardware necessary to produce their work.	One of the issues for web work by artists is that the public does not usually understand websites to be artworks in their own right. Websites that are recognized as artistic face the problem of being found among hundreds of thousands of other sites.
Most creation and production involves a large technical research component, leading some to refer to new media as a research practice as well as an arts practice.	Advanced, experimental production is often done in partnership with international collaborators that have facilities to support new media research and production.	New media installations often involve complex equipment and sometimes use unique software, making them difficult to exhibit anywhere outside technologically advanced organizations with highly trained technical staff.
A lot of expertise in the field lies with specialists, with people working in high-tech businesses and with scientists. There is frequent creative collaboration by artists with industry and science, as well as with other artists.	In Canada, advanced new media production facilities are often associated with universities and research institutes or with specialized agencies such as the Banff New Media Institute and Hexagram.	There is an established festival and exhibition circuit for new media in Europe and Asia, which means that Canadian work is frequently shown more outside Canada than at home.

Media Arts - Digital Arts/Digital Media/New Media/Interactive Media

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Many older artists working in this field come from and are influenced by other arts practices, often visual arts. The first generation of artists whose experience is exclusively in digital arts only began to practice a few years ago.	Only a few Canadian artist-run production facilities have the expertise and facilities to support new media production and exhibition. (e.g. SAT, Interaccess, Oboro, SOIL)	The cost of playback technology and technical expertise makes it financially difficult to exhibit the work in smaller institutions.
Because the work is by nature digital it is relatively easy to create collaboratively at a distance.	It may be difficult to tell when a new media production is finished, as it is open to constant evolution and refinement. (beta version, version 1.1, etc.)	Curatorial expertise and experience with new media is developing in Canada but many institutions feel they lack the ability or the confidence to discern high-quality new media artwork.
At the moment there is especially strong interest in locative media – media that interacts with information on the location of the viewer.	Most commercial gaming platforms are proprietary and not accessible to artists. However, machinima and modding use existing game elements to produce original artistic work.	Some work in artists' game development ends in experimental prototypes which may not be released widely. Others are recognized in specialized online and offline festivals.

Media Arts - Digital Arts/Digital Media/New Media/Interactive Media

Issues and questions

- Do arts funders have mechanisms to determine the eligibility and to assess new digital arts practices?
- To what extent are arts funders open to collaborations between artists and the private sector or other non-arts sectors?
- How is authorship determined in collaborations, especially in collaborations with non-Canadian artists?

Media Arts - Film and Video

General Observations: Film and video can be seen as artforms that exist because of 20th century technologies. As such, they have already absorbed many of the shocks associated with changes in technology.

Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Given the immediate playback capacity and affordability of basic digital cameras, it is possible to create by shooting, rather than use the elaborate pre-planning and scenario writing of traditional cinema.	It is possible to complete the production chain using digital equipment without having to rent expensive gear or editing space. The "pyjama revolution". However there is still an attraction to high end (especially HD) gear to make "professional" quality work. While the tools are accessible, expertise in camerawork or editing still remains specialized.	Traditionally it has not been difficult to place film/video work in distribution through artist-run distribution organizations. Most film/video artists have not had to deal with distributors acting as gatekeepers or investors. The role of distributors has been to get work shown.
It is possible to create pieces collaboratively with participants working at a distance, sometimes internationally	It may be possible to fund production with a crowd-sourced fundraising model, using social media to reach a large number of small contributors. Social media can also be used effectively in fundraising for documentaries by reaching the groups that share an interest in the subject of the documentary.	Once a work has been produced digitally it does not have to go through additional steps to be available for exhibition online. (no masters, release copies)

Media Arts - Film and Video

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Creation can be done with several possible delivery platforms in mind – theatrical, television, web, mobile.		Artists can now exhibit their work on the Internet (Facebook, etc.) but many do not consider it to be a desirable exhibition space due to the overwhelming amount of material available there and because artists' fees are an issue with online exhibition. If artists were able to use Internet exhibition effectively they could reach more of the (sometimes specialized) audiences to whom their work appeals.
		Some artists are seeking to invent their own platforms in order to create and disseminate their artwork.
		Given the low storage and delivery costs of digital material, artists can make older work available for distribution over a longer period of time, taking advantage of some elements of the Long Tail.

Media Arts - Film and Video

Questions and issues:

- Do arts funders recognize new video platforms such as mobile phones?
- Artist-run production organizations were established in part to help artists get access to equipment. If access is less of a major barrier, how does this affect the role of these organizations?
- Part of the way arts funders determine the eligibility of film/video artists is by requiring them to produce a work prior to applying for support. If this no longer a significant challenge, it means that the criteria to determine professionalism will have to concentrate more on where work is shown.
- How can artists become more effective in making their work visible on the Internet?
- Is there a possibility for using social media to attract the attention of communities of interest? Is there a role for artist-run distribution organizations to help them do so?
- In determining eligibility, given the importance that arts funders have placed on work being selected for festivals or other types of "real world" exhibition, how will arts funders determine the quality of on-line exhibition?
- The formats in which material is created and stored now will likely be superseded by other formats and technologies. To preserve material it will be necessary to preserve equipment and software to play and/or transcribe it. The long-term stability of digital media for preservation has not been established. The cost of digitizing analog collections is high for many artists' organizations.

General Observations: The sector is being radically transformed by digital evolution – e-books, online literary practices, digital publishing and 'print on demand'.

Because non-commercial authors release their work through the many of the same companies and along many of the same channels as commercial authors, authors have been affected by changes in the publishing industry.

Impact of Digital Technologies:　.....　Low　　　.....　Medium　　　.....　High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
New platforms are presenting opportunities to create different types of texts: collaborative works, web-based novels, novels for mobile phone applications, rich-text novels for iPad, "Twitterature", etc.	The entire production process has been digitized. Changes are taking place even while publishers have a significant investment in print publishing.	Books - A major challenge for publishers is to reach audiences for a work across multiple platforms, formats and distribution models. Different e-book reader softwares are not compatible.
Emerging writers tend to think in a more commercially aware way since they may not expect publishing firms to do their marketing and promotion.	Books - The major value of a publisher is editorial vision. But, with revenues shrinking, some mid-range publishers do not have in-house editorial staff, instead hiring freelance editors on a project-by-project basis. Some writers would prefer to hire their own editors directly.	The Association of American Publishers' domestic sales report for 2010 showed e-book sales rising 165% from last year. E-book sales have jumped 623% since 2008. E-book sales represented 8.3% of combined trade sales in 2010, up from 3.2% in 2009.

Writing and Publishing / Literature

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Literary agents have been important in the publishing industry in English Canada. Traditionally they have made part of their living from advances to authors from publishers. With this source of income diminishing they are diversifying to provide services for authors who wish to publish using the Internet.	Print on demand technology continues to improve and to offer more formats and better quality. It does offer options for short runs but is generally still too expensive on a per unit basis or too limited in the formats offered to work in any substantive way for most trade publishers. The technology can be very appropriate for short run genres like poetry.	The world of electronic rights is evolving to be as complicated as all the other rights that publishers deal with. Currently, most of those distributing electronic content are doing so on a non-exclusive basis, with the originating publishers retaining ownership. Thus, a company can place its digital content on-line with Google, Amazon, NetLibrary, Ebrary, etc. or it can allow its ebook content to be sold through eBooks.com, eReader.com, etc. However, there is some fear that if any one of the majors becomes too powerful, it will begin dictating terms in the same way that Apple iTunes did in the music field.
Management of digital rights with authors is an issue as standards have not yet been established.	Some publishers are offering opportunities for authors to self-publish e-books through the publisher's website.	While it is technically possible to download electronically published material without paying for it, the reading public has so far been more likely to pay for and respect lending conditions for e-books books than is the case with music and video.
	Publishers are attempting to digitize and own their own digital files for both front and backlist to maintain control and to ensure high quality digitization.	In the U.S., retailers such as Amazon and Barnes and Noble are moving towards becoming electronic publishers.

Writing and Publishing - Literature

Issues and questions

- Should authors to be their own promoters and marketers? Should arts funders cover the costs of specialists to do promotion and marketing for authors?
- Do arts funders have or can they find the expertise to assess new forms of writing?
- Publishers play a role in helping determine who is a professional author. Who fulfills this role if the centrality of the publisher is diminished? Do we need other gatekeepers?
- If a publisher does not provide the value added of editorial oversight, what is their contribution to the artistic process?
- The emerging wisdom is for publishers to acquire and retain electronic rights wherever possible from the moment of acquisition, by means of the publisher/creator contract, right through to the sale or licensing of the electronic rights to a completed work. However, most independent advice to authors is to retain electronic rights if at all possible.
- Canadian publishers have difficulties placing material online with aggregators such as Apple and Amazon and the majority of Canadian publishers do not yet have their work available through eReader, meaning the work is not as visible in the online world as books from other countries.
- A Canadian publisher which purchases the Canadian rights to an American or British book is likely to be competing against online publications of the same work originating in other countries.

Inter Arts/Interdisciplinary/Multidisciplinary

General Observations: Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Many artists work with sound, the web, video and multimedia and frequently collaborate with digital specialists such as technicians and webmasters in an interdisciplinary context.		Artists are self-curating or co-curating their work online in a challenge to conventional gates for determining professional status.
New interdisciplinary art forms are emerging that take place in social networks or on gaming platforms that challenge conventional creation and production systems.		
Young artists are technologically sophisticated, with the skills to use new communications technologies to network globally with other creators and to collaborate across these networks.		

Inter Arts/Interdisciplinary/Multidisciplinary

Issues and questions

- Presenters often do not have adequate technological facilities to present innovative work involving advanced digital technologies (e.g. projected virtual characters by Michel Lemieux)
- Multidisciplinary artists who embrace new technologies move easily between non-commercial arts and cultural industries, and between the arts and other research disciplines, such as the sciences. Some move between old and new cultures, creating hybrid art that engages the past and the present.
- Multidisciplinary artists increasingly integrate digital technology in their works, making it difficult to determine where they are best assessed.

Visual Arts/Crafts/Architecture

General Observations: Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
There has been the emergence of new forms such as public performance art where participants' performances are cued and directed over mobile networks. For example: Flash mob events in which a group of people assemble suddenly in a public place, perform for a brief time, then disperse, often for the purposes of entertainment and/or satire. Flash mobs are organized by social media, telecommunications, or viral emails.	Artists use digital software as part of or to assist with installation, design, fine craft and architecture. In architecture, computer numerical controlled machines can create complicated architectural components.	Use of the web for sales and promotion of art work is increasing but has not been systematically tracked.
Film-based photography has been migrating to digital photo-based practice.	It is possible to build up sculptural work directly from computer-based designs - 3D printer.	Mobile phone applications have been developed to give visitors and residents of a city to collected information on the museums in the city along with background on their holdings, tours and hours of operation. "Musees de Montreal"

Visual Arts/Crafts/Architecture

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
An increasing number of visual artists who use digital media such as video tend to see themselves as visual artists, not media artists. Their points of reference and history arise from visual arts practices.		New sites are offering extraordinarily detailed images of visual artwork in major international museums (Google Art Project). These sites also offer information to enrich visitors' appreciation of artwork by providing background information, critical texts and videos of curators or museum staff speaking about the artwork on view.
More artistic work is being done in the digital space from the onset of creation, not just at the exhibition stage.		Galleries and museums have been building accessible digital versions if their collections. These have the potential to put work before the public much longer than it is during an exhibition and for the public to assemble (curate) "personalized" collections online.
If galleries' and dealers are not creating online digital collections of artists' work, artists are doing it themselves.		Galleries and museums have introduced interactive guides to exhibitions to make the viewing experience richer and more personalized.

Visual Arts/Crafts/Architecture

Issues and questions

- Many galleries, including large museums, are not equipped to handle electronic and interactive work. The equipment for the presentation of work with digital support is very expensive to acquire and maintain, may be specific to work produced at a particular time and place and quickly becomes obsolete.
- There are new types of practices and work being produced that in only a few years will not function because software and hardware for them will not be available. This raises questions around their conservation and re-exhibition.
- Google, YouTube and Flickr have established themselves as museums of the digital world and are redefining the idea of curating content.
- With so much artwork available on the Internet, the public feels a need to have someone authenticate that they are seeing important art. Filtering their experience of visual art through large international museums provides this authentication. Where does it leave artwork that is not in these museums?
- There are not yet established standards for whom and what qualifies as examples of high quality artistic work in the digital arena.
- Galleries and museums have problems accessing the resources to make their collections accessible online.
- Interactive exhibition guides and personal collection building online are both areas where the viewer of a work supplies its significance. The viewer adds value for themselves, for the museum, and for other visitors by revealing different perspectives and contexts. These enhance, and possibly subvert, institutional perspective.
- Traditional practices in the visual arts place a high value on the unique qualities of original artwork. Even here though, the study of original artwork has been encouraged through initiatives such as Google's Art Project, with its very detailed copies of paintings.

Music Recording

General Observations: Music recording and music performance are being discussed separately, as digital technologies have had a much greater impact on recording. The sector is in the throes of enormous changes in creation, distribution and revenue generation. The impact of digital technologies on the major record labels has been significant, resulting in a $3.5 billion shrink in income from 1999 to 2006 (including digital sales). Because non-commercial musicians release their work through the many of the same companies and along many of the same channels as commercial musicians, artists have been affected by changes in the music recording industry.

Impact of Digital Technologies:　..... Low　　　..... Medium　　..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Electro-acoustic work is an example of an art form that exists because of technology. It may be created by individual musicians or in collaboration over a network.	It is possible to produce, record and mix music in small, affordable digital studios and produce sound quality matching high-end studios of the past. Recording does not need to be concentrated in large urban centres. Some recording equipment and/or software is affordable enough that musicians can produce their own work in a home studio.	Internet file-sharing, CD burning and illegal downloading have resulted in a major decline in the profits of major record labels. They coped by: • Unbundling content (consumers can buy downloads of individual songs vs whole albums) • Very affordable costs • Easy, user friendly and appealing legal downloading (e.g. iPod/iTunes) However, digital downloads, streaming services (Spotify, etc.) and mobile delivery have not made up for the decline in CD sales.

Music Recording

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Creating by remixing pre-existing musical material is facilitated by digital technologies.	Recording and mixing software is available online, making it accessible to non-musicians. This helps give rise to the pro-am movement, where amateurs have access to equipment and processes that used to be available only to professionals.	What we can see occurring in the music industry is that a lot of music has become essentially free to consumers.
Music composition and notation software eliminates steps in traditional composition and allows the composer to listen to material as it is composed.		Online aggregators such as Apple iTunes do not select music and musicians the way recording companies do and they do not promote the artists they carry. While there is a diversity of aggregators, mainstream sites tend to provide a narrow emphasis on popular music. There may be a role for aggregation and clustering around styles and genres of mutual interest to performers and consumers.

Music Recording

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
		Many independent musicians are directly reaching audiences and proposing new ways of getting their content out and generating revenue (e.g. touring, selling merchandise).
		Attendance at live performances of music has actually increased in the same period that has seen the spread of music piracy. It is possible that pirated music is acting as a form of viral marketing, with musicians taking advantage of the wide dissemination of their music as a means of attracting people to their shows.
		Roots Music Canada uses their website as a place to house and transmit live performances which are sent at specific times to audiences that come together in different geographic locations. The online site performs the role of a music presenter to raise musicians' profiles.

Music Recording

Issues and questions

- What will the impact of proposed copyright legislation be on remix culture?
- How will recording industry professionals (engineers, producers) earn enough to maintain their craft and assist artists?
- How does an artist whose work is not known get a profile? People tend to search aggregators for artists they know rather than browse for new voices.
- Should musicians become their own marketing directors?

Music - Performance

General Observations: Much of the information in the Reaching the Public section of this table is taken from "Don't Panic: The impact of digital technology on the major performing arts industry" (2008), by Jackie Bailey for the Australia Council for the Arts.

Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
There is significant growth among traditional organizations, such as symphony orchestras, in experimenting with new media in performance.	Opera - Innovations in digital technology may be useful in the production side of live performance. Possibilities include: • new software to simplify set design • digital projection, images, and lighting to create sets • remote rehearsals via video-links • easier video/audio playback of rehearsals for performers	Opera - The Metropolitan Opera, New York is leading the way in high definition, digital simulcasts of productions into cinemas. The 2006-07 series of high definition transmissions of six performances reached an audience of approximately 325,000 and the 2007-08 season included eight performances to approximately 600 screens in the US, and more in Europe. The Met has also reported an increase in live performance ticket sales as a result of its cinema strategy. Other opera companies around the world have begun cinema transmissions, including La Scala, the SFO, Washington National Opera and Glyndebourne Opera. Live opera and ballet performances from Covent Garden are to be shown in more than 60 multiplex cinemas across Britain with additional cinema screenings in Europe and the USA.

Music - Performance

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Performance which is devised rather than text-based may benefit from the loose networking made possible by connecting people digitally in remote locations	Opera - Companies can use relatively inexpensive digital camera technology to make recordings of their performances for the purposes of archiving, education and as a resource for current and future practitioners.	For many large performing arts organizations, the primary utility of the Internet is to reach potential audiences. However, many performing arts companies use social media such as podcasts, blogs and microsites to provide rich information about performances, develop customer relationships and market online. Examples include the English National Opera and Sadler's Wells (UK).

Music - Performance

Issues and questions

- The use of digital transmissions by international companies means that the delivery of live performance is occurring in a global marketplace. Performing arts companies can no longer assume their main competition is from others in their artform in their local state, city or even country. Their main form of competition may come from New York, Milan or London.
- Even if a performance is only streamed online, not simulcast into digital cinemas, it raises questions of audio-visual production expertise and of rights. It also raises fears that the originating company may lose control over the material once it is on the Internet.
- Audiences used to the close-ups, changes of angle and other characteristics of a cinematic presentation of opera may have an expectation of the operatic experience that live performance does not meet.
- Some opera houses have been designed and built with broadcast in mind, with positions for camera and cinematic lighting. For houses that have not been built as potential "studios", the cost of retrofitting cinematic production facilities can be daunting.
- The social aspects of coming together to see a show set live performance apart from the Internet and TV. However, the cost differential between $100 for a ticket to a live show and $25 for a ticket to a digital simulcast may offset this advantage, given that attending a screening in a movie theatre is itself a social event.

Dance

General Observations:

Impact of Digital Technologies: |..... | Low |..... | Medium |..... | High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
Software exists that allows choreographers to sketch what a performance will look like before it is performed by dancers.	Performers use computer-controlled sensors to correlate with images and sounds. Information from sensors may also control and manipulate video, lighting, robotics, sound, music and real-time animation.	New dissemination methods including live simulcasts and podcasts are finding an audience. (National Ballet of Canada simulcast of *Nutcracker*)
Dance companies and choreographers are increasingly integrating technology into their creations and creating hybrid performances that pair the real and the virtual.		New technologies are allowing for innovative ways of documenting dance.
Educational DVD's and CD-ROM's are being used to improve performance and choreography.		

Dance

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
US dance company Ballet Nouveau Colorado is hosting its 21st century choreography competition online, inviting choreographers to upload short YouTube samples of their works.		

Dance

Issues and questions

- Budget constraints are a barrier with regard to creation, dissemination and preservation using digital technologies.
- There are still significant technological issues concerning the preservation of material documenting live dance performances.

Theatre

General Observations:

Impact of Digital Technologies: ..... Low   ..... Medium   ..... High

Creation	Production	Reaching the Public (Distribution, Exhibition, Marketing)
	The use of digital technology in performances is increasing, with video projections replacing traditional scene painting and new forms such as virtual performers on the rise. (Robert Lepage) This use of video and still imagery for sets is not restricted to large companies; it is in used in regional theatres as well. 80-85% of applications from English Theatre companies to the Canada Council involve multimedia, with sophistication varying from very simple (subtitles) to very complex.	Some simulcasting is being done. (Stratford Festival simulcast of Caesar and Cleopatra). It is proving to be extremely resource intensive. Theatre companies are embracing new means of administration and marketing using the Internet and there has been an increase in personnel to run these new processes.

Theatre

Issues and questions

- The cost constraint on using digital technologies for backgrounds, sets, etc. is not the cost of equipment (which can be amortized over a number of years) but rather the costs of hiring people to create quality work and technical staff to set up and maintain the technology. Costs within multimedia industries are much higher than in the theatre community, creating budgeting problems.
- For simple projects, multimedia can be cheaper than more traditional tools.

G. ISSUES AND TRENDS THAT CROSS DISCIPLINES/PRACTICES

Copyright

A number of terms relating to digital technologies may be confusing if they are brought up in a discussion of copyright. Therefore, it is important to understand what is meant by the following terms.

- Digital Asset Management refers to the way material is recorded, stored and made available. It is of interest to the book publishing industry which manages texts as digital files (assets) from creation through production and distribution.
- Digital Asset Distribution is what iTunes, Kindle, Google and other digital content aggregators are doing when they make digital files (music, e-books, etc.) available to the public.
- Digital Rights Management (DRM) is referred to as Technological Protection Measures in Bill C32, the recently proposed Canadian copyright legislation. Some commentators note that it might be clearer to refer to it as Digital Restriction Management as it covers the ways that hardware and software are produced or coded to restrict what can be played on or recorded from them. For example, DRM s supposed to make it impossible to read an Amazon e-book on anything but a Kindle reader. In contrast, CDs are not covered by DRM so they are easy to copy. In the copyright debate around Bill C32, it was proposed that digital rights management be supported by the law, making it illegal to copy "locked" material

Copyright legislation must balance the competing desires of creators to be compensated for their work and consumers to have access to work. Bill C32 was an attempt to update copyright legislation and was intended, among other things, to allow creators to control and receive compensation when their work is distributed over the Internet. It was especially targeted at trying to prevent theft of material from the Internet. These elements of the proposed legislation were strongly supported by the digital media industry. Many artists who are seeking ways to ensure a return on the electronic distribution of their work also supported increased copyright protection for their work on the Internet. Counteracting these forces were the desires of the public to record television and to legitimately acquire film, music and other work from the Internet. Bill C32 proposed to allow these activities as long as they did not infringe on material which had Technological Protection Measures ("locked").

Within the artistic community there were two schools of thought relating to the proposed legislation. Some (mostly) younger artists considered all material, and especially commercially released material, to be legitimate grist for the remix mill. They considered

copyright a restriction on their creativity and argued for more open access to material. In contrast, many artists wanted measures in place to ensure that they were compensated when their work was made available to the public through the Internet.

Much of the commentary on the proposed legislation study commended the federal government for trying to steer between competing interests but had issues with the fact that anytime a digital lock is used the lock appears to trump all other rights. Commentators wondered if existing fair dealing rights (research, private study, parody, education, time shifting, backup copies, etc.) would cease to function effectively if the rights holder placed a digital lock on their content or device.

Bill C32 died on the order paper when the May, 2011 federal election was called. However, there appears to be general consensus amongst commentators that Canadian copyright legislation needs updating to be effective and relevant in a digital age.

The role of experts

Many commentators have noted that the role of the expert (critic, reviewer) is quickly eroding and has been supplanted in many fields. Sometimes they are challenged by a network of peers (Facebook news instead of newspaper editors), sometimes by the digital public (Yelp instead of a published Zagat guide), sometimes by a new set of collective experts (Wikipedia instead of the Encyclopaedia Britannica) and sometimes by software (people who liked this also bought...). This trend has led to an explosion of accessible information. However, it becomes increasingly difficult for average users to assess the credibility of information accessed via the Internet. Due to the self selection of sources of information and social networks, some commentators worry that people may rarely engage with those who hold opposing views. However others feel that even thought we may seek out someone's opinion online because they share our interests they are just as likely to have to have other interests that may lead us in unpredictable directions.

Privacy, security, and sustainability

Artists do not see the Internet as a value-neutral arena. Although some in the public appear relatively unconcerned about how their privacy is protected on social media sites, artists worry that freedom of expression may be threatened if they are viewed as security risks or if they express unpopular opinions. Others have expressed concern about the concentration of power in large corporations and worry that these organizations will become new gatekeepers. For example, Apple limits the types of material that it allows on iTunes.

Industrialized societies are increasingly dependent on digital networks and the security of these networks is not assured. As more artistic material migrates from physical to digital forms and is stored offsite (cloud computing) it becomes vulnerable to security breaches and losses.

While producing and transmitting material in physical form may create a smaller environmental footprint than producing and shipping physical objects, there is still a significant environmental impact from using digital technologies, ranging from energy costs for producing and operating digital equipment and servers to the costs of recycling digital devices, which have very short shelf-lives.

H. THE USE OF DIGITAL TECHNOLOGIES BY PERFORMING ARTS ORGANIZATIONS

Research from the United States, the U.K. and Australia on the way that arts organizations are using digital technologies suggests that social networking sites were the technologies most commonly used by performing arts organizations, outpacing direct marketing. Many organizations' sites serve multiple purposes and target multiple audiences. For example, a gallery might use its site to market its live exhibitions to the general public, but also to recruit volunteers, attract donations, and generate revenue by selling merchandise. Very few sites appear to be reaching large audiences online, with only one in the U.K. – the Royal Shakespeare Company– attracting a large enough audience to register in the Nielsen/NetRatings top 6,000 sites in 2008. As a result, the reach and impact of the content that is currently being provided is limited.

Arts managers evaluated the adoption of technology by their organizations a just behind where they needed to be and generally agreed that building/maintaining technology infrastructure and writing grants for technology were the two most difficult areas for their organizations. They also commonly felt that arts organisations struggle with rights issues, particularly relating to archived content.

I. PUBLIC ENGAGEMENT WITH ARTS ONLINE

The following information is drawn from two studies carried out with the collaboration of Arts Council England: "Consuming Digital Arts: understanding of and engagement with arts in the digital arena amongst the general public" (2009) and "Digital audiences: Engagement with arts and culture online" (2010).

The first was conducted using online bulletin boards with 180 people who had different levels of interest in the arts and knowledge of digital technology, as well as six face to face meetings with a total of 40 more people. It excluded professional artists, people working for arts organizations, people who actively reject the arts and have no interest in them and people with no access to the Internet. The second paper shows the results from an online survey of 2,000 adults in England over sixteen years of age.

Public awareness of art and engagement with arts on the internet

When prompted with a list of art forms such as painting, literature, film, music and performing art, nearly everyone knows of art on the Internet in some way. People who are most engaged in the arts already are most likely to explore art online. For them, the Internet has the potential to complement and deepen their existing arts experiences. For many, online content is valuable as a research resource and educational tool, but primarily linked to existing 'live' events and activities. The Internet is considered a very useful resource when you know what you are looking for, but the sheer amount of content makes the idea of browsing overwhelming. Despite the range of content on offer, art in the Internet does not replace the live experience, particularly for those with a moderate or high level of interest in the arts.

Over half of the online population (53%) had used the internet to engage with the arts and cultural sector in the previous 12 months. The most common activities are discovery of information about a live event or artist/performer (33%) and ticketing (20%). Other key activities include watching or listening to a clip of an arts performance or exhibition (16%) while a further 8% had watched or listened to a full arts performance.

People's usage of online arts content depends on the nature of their artistic interest and their level of enthusiasm for the arts. For less arts engaged audiences, there is no sense that they are inspired to get more involved in the arts through the Internet, although it is seen as a useful resource. The Internet is unlikely to 'convert' those who are currently uninterested in the arts. The exceptions are streaming and downloading music and watching TV shows online. Downloading or listening to music was the most popular audiovisual activity carried out on the internet in 2008.

Many niche or experimental arts content websites are simply never visited by the majority of the participants. Such sites are unlikely to be signposted by more mainstream media and interest in experiential and participatory arts sites is low, so people are unlikely to actively seek them out.

Some say they experience difficulty gauging the legitimacy of online content and its creators and feel more comfortable on websites which are clearly hosted by institutions they know and trust, such as a national gallery. Some also welcome the involvement of more recognised 'experts' and trusted brands to help them navigate arts content online more easily.

Over half of the online population surveyed used social networking sites at least once a month – of these, around a quarter said they shared information on arts or cultural events with friends at least weekly.

Participants described some concerns about limitations of the online experience. Many see online and offline arts as an 'either or', where developments in the arts online can only come at the cost of offline art. These people consider the online space to be a competitor rather than a complement to the arts offline. Arts enthusiasts in particular are worried that "technology will take over" and that the traditional arts experiences they currently enjoy will gradually die out. Some feel that experiencing art digitally is anti-social compared to sharing and participating in offline arts events.

Most people say that they would refuse to pay for arts online. Some point out that, for them, one of the major virtues of the Internet is that it is free. Persuading people to pay for arts content online will require guarantees of rare or exclusive content, consistent quality and high legitimacy.

Despite fears about the prospects for the live experience, many are excited about the future. This is particularly the case when considering the possibilities of virtual worlds and immersive technologies.

People are eager for more interactive arts experiences, rather than passively reading or viewing. That is to say, they are attracted to the idea of being able to tailor their arts experiences to suit their personal tastes. However, there is currently little sense that active participation in creating art will increase greatly in the future. Creating art is seen as a calling to a large extent ... and those who don't consider themselves artistic are unlikely to be swayed by new media or methods. This applies equally to people of all ages.

J. SUMMARY OF RESPONSES FROM MEMBERS OF THE CANADIAN PUBLIC ARTS FUNDERS (CPAF) NETWORK

Questionnaires were sent to all fourteen members of the Canadian Public Arts Funders (CPAF) network. Eleven funders responded, nine in writing and two in writing and through meetings with the consultant. What follows is a summary of their responses, showing instances where funders had similar answers as well as responses arising from the unique situations of some funders. (In a few instances, additional information has been taken from funder websites.)

In our research we use the term "digital technologies" to describe technologies that allow information and processes to be created and stored in digital form, with the possibility of distribution over electronic networks. Please describe how you use this term in your organization/agency/institution if it is different from the definition we are using.

- Six funders said they were comfortable with the definition, although one pointed out that they would like it to refer to the role of new technologies in supporting artists and promoting and preserving artwork.
- Three funders said that they did not have an official definition or did not use the term, with one of them noting that its sponsoring government department is in the process of developing a definition.
- Two funders referred to definitions used in their digital media/new media programs.

Does your organization currently have an approach or framework in place relating to digital technologies?

- Ten funders do not have an approach or framework in place, although one said the framework being developed by its sponsoring government department will inform its approach.
- Among the funders that do not have a formal framework:
  - Three said that their current strategic plan places a priority on "innovation" or a similar topic.
  - Four indicated that it is an area they are aware of and which they are monitoring.
  - Two expected that feedback from new programs in digital media/new media will inform a general framework.
  - One described a detailed community consultation it is undertaking on digital technologies and the arts, with results to be reported later this year.

Program policies - How do your programs for artists and arts organizations deal with changes brought about by digital technologies?

- Seven funders have new media/digital media programs, either as stand-alone programs or as components of media arts programs.
- Two funders described new media/digital media programs they have developed recently, although one of them is on hold after funding ended in 2008. One funder described a wide-ranging innovations program which is open to cross-disciplinary work using digital technologies. It too is suspended for lack of funds.
- In terms of program-related initiatives, four respondents said they had opened their programs to new means of expression and delivery modes such as smart apps, social media sites, and online festivals. Writing/literature programs were especially mentioned in this context.
- One funder pointed out the difficulty of finding peer assessors who are technically savvy and suggested that some programs may need special components to deal with work influenced by digital technologies. The same organization said that evaluation criteria dealing with digital competence need to be developed.
- Three funders noted that they are open to digital technologies, try to stay up to date with them and encourage clients in all disciplines to explore them. One noted the role that artists and arts organizations play in keeping them up to date; stating that they regularly receive suggestions and comments.
- One funder, which does not differentiate programs by discipline, noted that it is open to projects using digital technologies and is making ongoing efforts to discern appropriate indicators of proficiency.
- One funder noted that it "challenges organizations to articulate their strategic responses and action plans in the face of new and evolving technologies".
- Two funders said they have not seen a lot of demand by artists and organizations using digital technologies as yet but realize it is on its way.

Program policies – Do you plan to make changes to your program policies in response to digital technologies?

- Two funders plan to make changes in program policies. A third funder expected that policy changes will be made in the process of its current strategic planning process.
- Two funders emphasized that they would only initiate changes if they were asked to do so by clients and that they are not yet feeling the need to change. Additionally, two funders pointed out that any changes would have to be discussed with stakeholders.

- One stated that it feels its policies are not limiting for applicants who use digital technologies while another mentioned that it has been supporting projects involving digital technologies for years.

Program administration - How has the administration of your programs responded to or taken advantage of changes brought about by digital technologies?

- Program information and application forms are available on the websites of all the funders.
- Application forms may be filled out online for three funders.
- Applications may be filled out and submitted online: This is a possibility for almost all of the programs administered by one funder, who noted that operating programs and programs for individual artists have been slower to adopt online applications than project programs. This funder also stated that a freeze on capital spending has stalled the move towards online applications at present. In addition, one other funder has online applications in one of its programs.
- Electronic copies/versions of applications are used for internal file management by one funder.
- Electronic copies/versions of <u>applications</u> are used in evaluation by two funders and three additional funders said some of their programs allow for this.
- Electronic copies/versions of <u>support material</u> are used in evaluations by one funder and three additional funders said some of their program allow for this.
- At least four funders provide downloadable forms for successful applicants to report on their grants.
- One funder noted that they inform applicants about the success of their application by e-mail.

Program administration – Do you plan to make changes to your program administration in response to or to take advantage of digital technologies?

- Six funders have plans to implement online web-based application processes within the next three years. Many of them noted that they will do so as part of a move towards more comprehensive electronic file management systems integrating file tracking, evaluation, payment, reporting and storage of tombstone information.
- Two funders anticipate moving to online application processes over the longer term, as appropriate to their jurisdictions. One would like to be able to accept applications that are content-rich, with links, video, images, etc.

What are the disciplines or activities where you find the greatest challenges and/or opportunities being brought about by digital technologies?

- Many noted that the major challenges are in disciplines in which digital technologies have changed the production and business models, with the cultural industries facing particular impact.
- Seven funders said they saw literature/publishing as an area facing great challenges.
- Four described music recording and/or dissemination as challenged; while one pointed out that the sound recording industry considers that it has emerged intact from the impact of the first wave of digital technologies and feels uniquely positioned to take advantage of further change.
- Four funders mentioned film/media arts as an area facing an impact.
- Public art and multidisciplinary art were other disciplines mentioned.
- Four respondents pointed to issues touching on the electronic dissemination of different types of art, with one noting that it is important to distinguish between challenges that are effecting creation and dissemination as opposed to challenges in marketing using digital technologies.
- Other suggested areas of impact were: changes being brought about in creativity where audiences engage in determining the outcome of work, the definition of "professional artist" in the face of easy access to professional tools, the effectiveness of social media in marketing, the role of producers in music recording, the varied technical skill levels of artists, the preservation of digital work and the challenge of identifying what constitutes merit-based acceptance of work that is disseminated online.
- Suggested opportunities were: the near-universal access to the Internet and the ways artists in all disciplines can enrich their practice or the promotion of their work in increasingly networked ways.

Outreach and promotion to the public and partners – How do you use or plan to use the Internet and other digital technologies to reach the public and partners?

- All of the funders have active websites which are their primary means for electronic communication.
- Three funders noted that they use e-mail and/or e-newsletters.
- Six funders use a variety of social media (primarily Facebook and Twitter) and three others plan to begin using social media. Most social media is used by communications services, but program officers in one funding agency said they use social media directly.

- One funder has a full-time staff position to support web-based and social networking communications and community-building initiatives. This agency finds social media to be especially effective in reaching artists and publics who are "not the usual suspects" in terms of communication and uses "lay ambassadors" to ensure that information reaches new audiences.
- One funder pointed out that they work in French and English but that the basic platform for some social media is English only.
- In terms of limitations on using social media, two respondents pointed to the resources (expertise, time and staff) required to establish and maintain social networking and three others are investigating privacy, transparency and workload issues associated with social networks. Respondents from one funder said that any work done on social media is in addition to regular work and could consume as much time as they wanted to devote to it.
- One funder uses public radio and would like to use community TV to reach the public.
- Three funders said they tracked online references to their agency.

Are there other factors that you think may have an impact on how your organization deals with digital technologies?

- Six funders mentioned copyright and Bill C32 as having an impact on cultural industries and on issues such as copyright protection mechanisms and the use of non-applicant material in projects. Respondents from one funding agency pointed out differences in opinion on copyright among artists that break down along age, wealth and community lines.
- Other factors mentioned were: federal and provincial digital strategies, CRTC decisions, collective labour agreements as they relate to Internet diffusion of work that was not created for the Internet, preservation strategies for digital material and bandwidth availability in areas with a limited number of Internet Service Providers.
- Two funders said that they felt that they were perceived as lagging behind their clients and other parts of the public in adopting and understanding digital technology. They were concerned that the arts community, government and public expect a more active engagement in the field despite continued limitations in human and financial resources. Respondents from one funder expressed concern that they are being bypassed by a generation of artists and audiences and suggested that application processes may be seen as too slow and cumbersome.

- One funder linked digital technologies and young people, noting that they have established a Youth Commission to advise them on issues of particular interest to younger and emerging artists and are looking forward to hearing what they have to say about digital technologies in their practices.

Seven funders gave comments on what they saw to be central opportunities and challenges for arts communities in the face of digital technologies.

Opportunities

- Five funders mentioned dissemination. Artists have new ways to better market their activities and make online sales, build audiences and self-promote.
- There is increasing ability to communicate and promote in a cost-effective way. The ability is there to form meaningful communities related to specific issues and interests coupled with the ability to organize people.
- New technologies are modifying the public's experience of the arts and making them more affordable through mechanisms such as simulcasting opera and on-line acquisition of recorded music.
- Physical infrastructure is possibly becoming less necessary. Some of the high costs of travel and rehearsal space may be mitigated. There is the potential to create new kinds of venues and events where technologies are used to bring in performances.
- Access to the arts in remote and rural communities is increased.
- Richer collaborative practices are encouraged.
- New art forms are emerging.

Challenges

- There are training needs for computer and digital literacy.
- The pace at which technologies change makes it difficult to keep up to date to view and store material. It is difficult to know which technologies will be the most effective and long-lasting, also providing challenges for curators.
- Appropriation of work is easier if there are no controls on how art is presented on the Internet.

K. QUESTIONS FOR PUBLIC ARTS FUNDERS

The following questions were developed by the consultant.

Do arts funders recognize the ways in which artists work in the digital environment?

Are grant levels and processing turnaround times appropriate? Do funders use online mechanisms that artists and public have come to expect from agencies (online applications, interactive information sources.) Do arts funders recognize and support the costs associated with digital technologies, especially the costs of hiring people with specialized technical expertise? Do arts funders have guidelines or policies dealing with artists' use of pre-existing sources (remix culture, modding)?

Do arts funders recognize art practices that develop or change because of possibilities presented by digital technologies?

Do funders recognize artistic work in fields such as gaming, writing for the online environment, hybrid and multidisciplinary forms involving the use of digital technologies, etc.? Are funders open to collaborations between artists and the private sector and/or other sectors such as science and health? Do funders have staff or others experts who are knowledgeable in developing fields? Do they have access to people and processes to properly evaluate work emerging from these fields?

How do arts funders recognize the professionalism of an artist if the roles of traditional indicators of professionalism (acceptance by gatekeepers, use of professional tools) are diminished?

What are appropriate measures of professionalism for work released on the Internet?

Are funders tracking the changing roles of infrastructure organizations (artist-run centres, publishers, recording studios, etc.) in light of digital technologies?

Are organizations being given the latitude and resources to change? Are there criteria in place to evaluate the effectiveness of organizations in the digital environment? Do funding agencies recognize the roles of new kinds of professionals who help artists/organizations use social media and digital technologies effectively? Do funders see a role in supporting the preservation of material produced and exhibited using digital technologies?

Do public arts funders have plans, policies or guidelines for the use of social media to interact with artists and the public?

Are there guidelines for staff who use social media as part of their work? Are there resources in place to make effective use of social media at an organizational level?

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Annex 1 - The Gartner Hype Curve
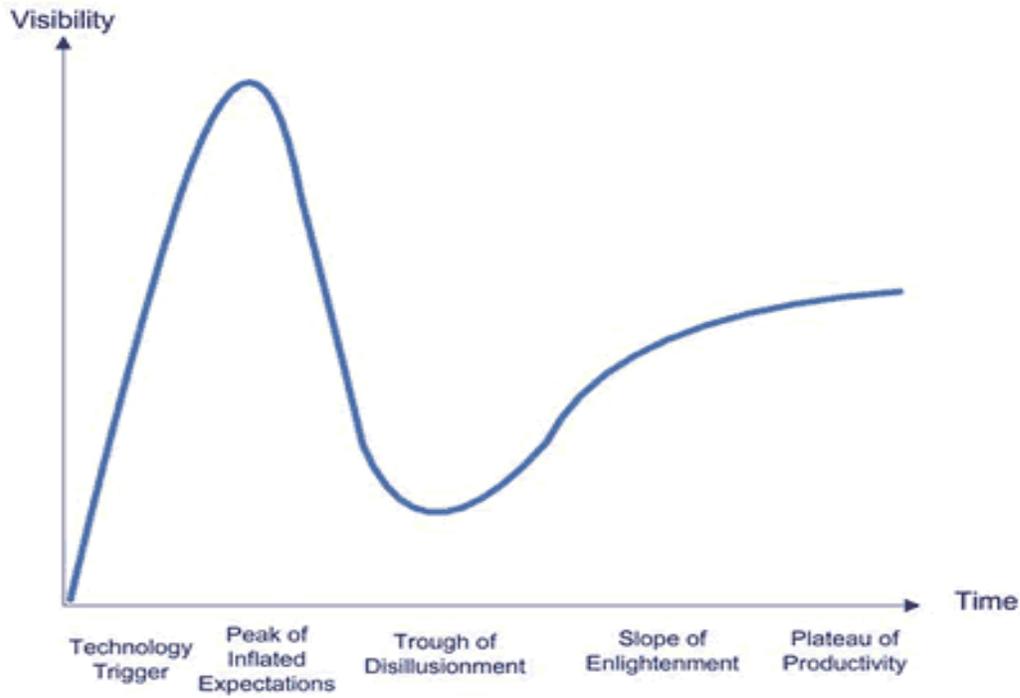
Technology Trigger —Breakthrough, product launch or other event that generates significant interest.

Peak of Inflated Expectations— Frenzy of publicity generates over-enthusiasm and unrealistic expectations. Some successful applications, but typically more failures.

Trough of Disillusionment — Technologies fail to meet expectations and become unfashionable.

Slope of Enlightenment— Experiments to understand benefits and practical applications of the technology.

Plateau of Productivity—Benefits become widely demonstrated and accepted. The technology becomes increasingly stable.

This graph was developed by Gartner, Inc., a U.S.-based information technology research and advisory company.