www.pwc.com/ca

Digital transformation of creative media industries: Opportunities for success and challenges

November 2011

Prepared for: Ontario Media Development Corporation.

Ontario
Ontario Media Development Corporation
Société de développement de l'industrie des médias de l'Ontario

Prepared by:
PwC and Nordicity.

Nordicity

pwc

Contents

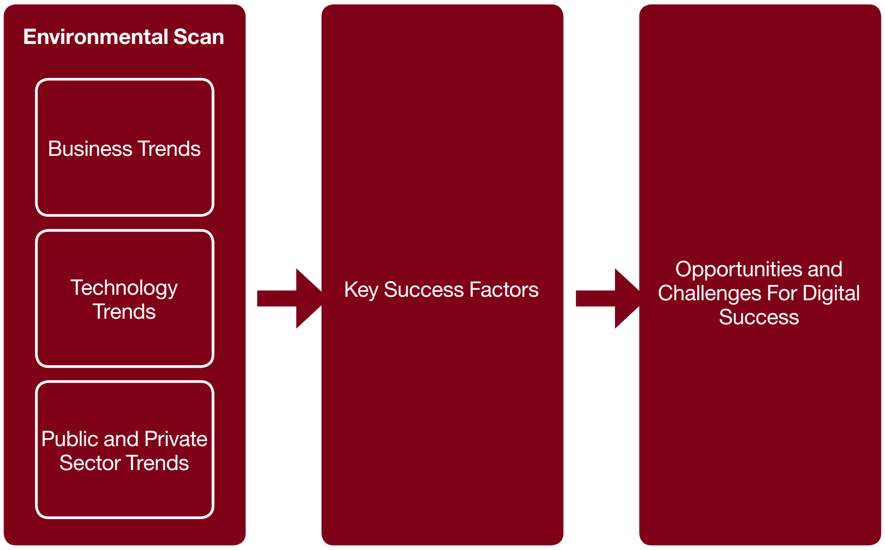
Executive summary

This paper examines the ongoing Digital Transformation in the cultural media industries, which touch all aspects of the cultural media landscape — from ideation and innovation through production to marketing and distribution. It postulates that cultural media businesses that create high quality products and services using emerging digital technologies will be able to better meet future consumer and market expectations across the many platforms that are currently in use or in development.

The objective of this paper is to i) provide an environmental scan of the business, technology, as well as the public and private sector trends affected by the Digital Transformation of the cultural media industries; and ii) identify the opportunities for success and challenges for the cultural media industries arising from the transition to a digital economy focusing on the opportunities, that are intended to drive and encourage Digital Transformation. This paper is jurisdiction agnostic and looks at the Digital Transformation of the cultural media industries around the world.

To complete this paper, the research and analysis steps taken are described in the following illustration:

Digital transformation study — Approach summary



From the environmental scan of the business, technology as well as the public and private sector trends, conducted between July and December 2010, a series of Key Success Factors (KSFs) were developed. The KSFs highlight the conditions necessary for creative media companies to successfully transition to the digital marketplace. Potential opportunities for success and challenges to success were then identified for the cultural media industries, arising from the transition to a digital economy.

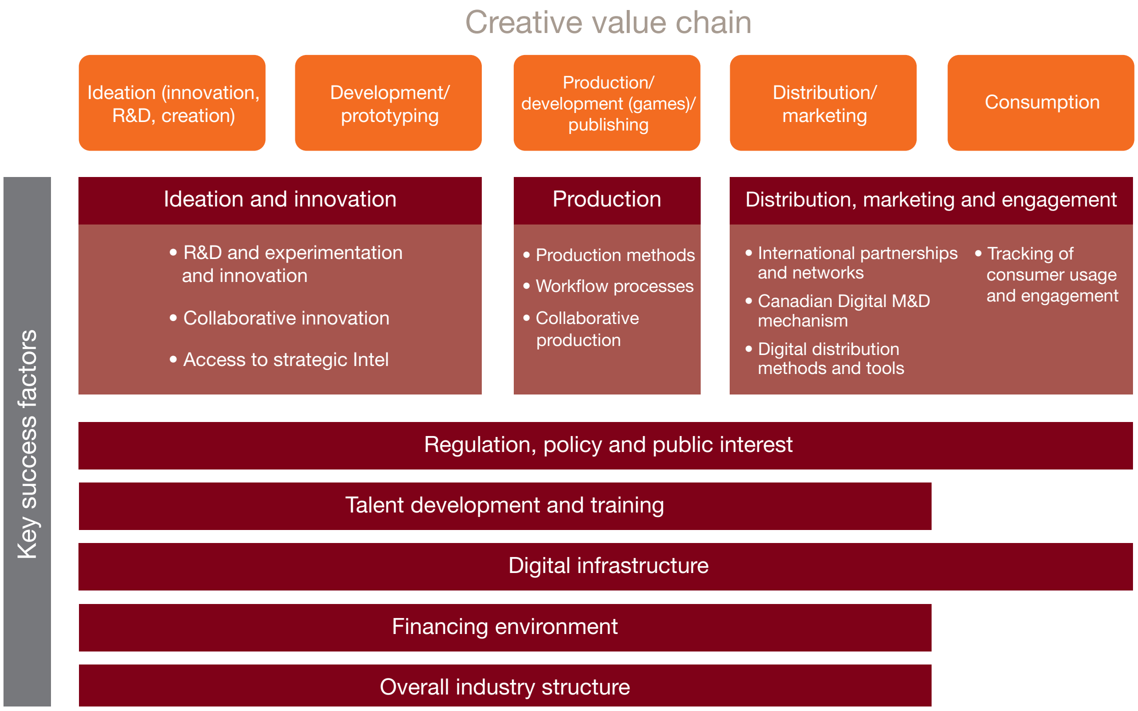
Environmental scan

Underlying the successful transition to the digital marketplace is a series of business, technology as well as public and private sector trends, which can be summarized as follows in terms of how they affect the cultural media sector and whether they cross all the industries in the sector:

Trend	Element of Value Chain Affected	Impact across Cultural Media Industries
Collaboration across the creative value chain between companies, entrepreneurs, academics and government	All — Innovation/Ideation, Production/ Development, Distribution/Marketing, Consumption	All — Book Publishing, Film and TV, Interactive Digital Media (IDM), Magazine Publishing and Music industries.
Emerging business models	Production, Distribution, Promotion and Marketing, Consumption	All — Book Publishing, Film and TV, IDM, Magazine Publishing and Music industries.
Digital piracy	Distribution, Consumption	Primarily Music, Film and TV and IDM industries.
Digital tools and processes (e.g. Micro-billing, content management, CRM, DRM system)	Innovation/ Ideation, Production, Distribution	All — Book Publishing, Film and TV, IDM, Magazine Publishing and Music industries.
Vertical integration of large media companies	All, with emphasis on Distribution/Marketing	Film and TV, Music, IDM, Magazine Publishing.
Multi format/platform distributions	Production, Distribution/ Marketing, Consumption	All — Book Publishing, Film and TV, IDM, Magazine Publishing and Music industries.
Collaborative infrastructure (e.g. Reliable high-speed broadband networks)	All, with emphasis on Production and Distribution/Marketing	All with emphasis on, Film and TV, IDM and Music industries.
Social media as a means to access market	Innovation/ Ideation, Distribution/ Marketing, Consumption	All — Book Publishing, Film and TV, IDM, Magazine Publishing and Music industries.
Co-investment between public and private sector	Innovation, Production and Development	IDM, Film, TV, Book Publishing and Magazine Publishing.
Public sector support programs and tax credits	Production and Development, Distribution	All — IDM, Film and TV, Music, Book Publishing and Magazine Publishing.
Skills development and training funds, programs and initiatives	All — Innovation/Ideation, Production/ Development, Distribution/Marketing, Consumption	All with emphasis on IDM, Film and TV and Music.

Key success factors

To assess the ability of a jurisdiction to implement a successful Digital Transformation, a series of Key Success Factors (or KSFs) were identified which enable, but do not guarantee, digital success. These KSFs map to the creative value chain depicted in the following illustration:



Summary of opportunities and challenges for digital success

Drawing from the global environmental scan and key factors to digital success analysis, the most likely opportunities and challenges to success for the cultural media industries were identified in a digital economy. The following table summarizes those opportunities and challenges:

Opportunities

Access to a global marketplace — defined either as geographical areas or groups of common interest areas. Making use of digital marketing and distribution mechanisms represents opportunities for a jurisdiction to facilitate the promotion of local digital products to domestic and international markets. It also enables independent content creators to engage in promotions and direct marketing with end-consumers relatively inexpensively.

New business models — focused around multi-platform distribution and consumer engagement. Multi-format/ multi-platform distribution creates opportunities to increase the value proposition of content producers and distributors, by offering consumers access to “content everywhere”, which results in new monetization model.

Increased collaboration — including:

- Post-secondary institutions and cultural media industries firms collaboration is critical to develop academic programs that will generate new digital workers;
- Inter-firm level collaboration offers opportunities to access experts around the world and create new innovation communities and improves ability for local firms to compete globally in terms of Research and Development and innovation;
- Cross-media industry collaboration enables the production of integrated digital media products (e.g. magazines or books + IDM or TV), and knowledge transfers from digitally advanced cultural media industries to those struggling with the transition;
- Inter-governmental collaboration around policy and programs coordination is an opportunity to address incompatibilities among digital strategies, policies and programs offered at all levels of government in a given jurisdiction.

Lower barriers to entry — including:

- Opportunities to produce, distribute and market content at a lower cost;
- Reduced costs associated with the over production of physical stock;
- Flexibility to customize supply to meet demand;
- Ability for industry-ready digital workers, both technically trained and with business acumen, to grasp digital business needs and seize new business model opportunities.

Challenges

Financing — access to additional capital is needed to finance investments in training, digital tools, innovation and experimentation, and marketing/distribution.

Lack of trained workforce — to enable the digital transition of the cultural media industries; there is a need for both digital training and business training. Such training is needed in both entry-level and more senior parts of the sector.

Lack of resources for experimentation and innovation — Support is needed to encourage companies to experiment with innovative methods, products and services. Resources are needed for:

- early stage experimentation financing;
- increased collaboration between firms and academic institutions; and
- affordable access to strategic intelligence to enable firms to make sound strategic decisions with respect to new and existing products.

Access to consumers — It is a challenge for many content producers in the cultural media industries in the digital space, as they become disengaged from their consumers when distributing content through larger international aggregators. Access to consumers is critical to enable cultural media industry companies to gauge the performance of their products and services, and tailor them more precisely to consumer needs.

Conclusion

The move to digital is about leveraging new digital capabilities to achieve transformative business and operating models. These capabilities open the door to a vast range of opportunities for the cultural media industries. At the same time, cultural media industries are faced with major challenges when transitioning and adapting to the digital world. New organizational models and skills in the workforce are required. Finding strategic positioning within the digital ecosystem where new competitors and potential partners are emerging and new markets are developing is a key challenge for all industries, including the cultural media industries. Companies need to find a balance between preserving and supporting the traditional business while investing in new digital business opportunities.

1. Introduction

1.1 Objective

PricewaterhouseCoopers LLP ("PwC") and Nordicity Group Ltd. ("Nordicity") were engaged by the Ontario Media Development Corporation ("OMDC") to conduct a study on the Digital Transformation in the cultural media industries. This transition touches all aspects of the cultural media landscape – from ideation and innovation through production to marketing and distribution. Cultural media businesses that successfully create high quality products and services based on the existing and emerging digital technologies will be able to better meet consumer expectations across the many platforms that are currently in use or in development.

OMDC encourages innovation, investment and employment in Ontario's cultural media industries: book publishing, film and television, magazine publishing, music and interactive digital media industries. Since its creation in 2000–01, OMDC has delivered a menu of programs and services to create jobs and investment for the province of Ontario and remains central to the implementation of the Ministry of Tourism and Culture's Strategic Framework for the province's $12.2 billion Entertainment and Creative Cluster,[1] and to helping the Ontario economy grow innovative companies and add knowledge-based jobs.

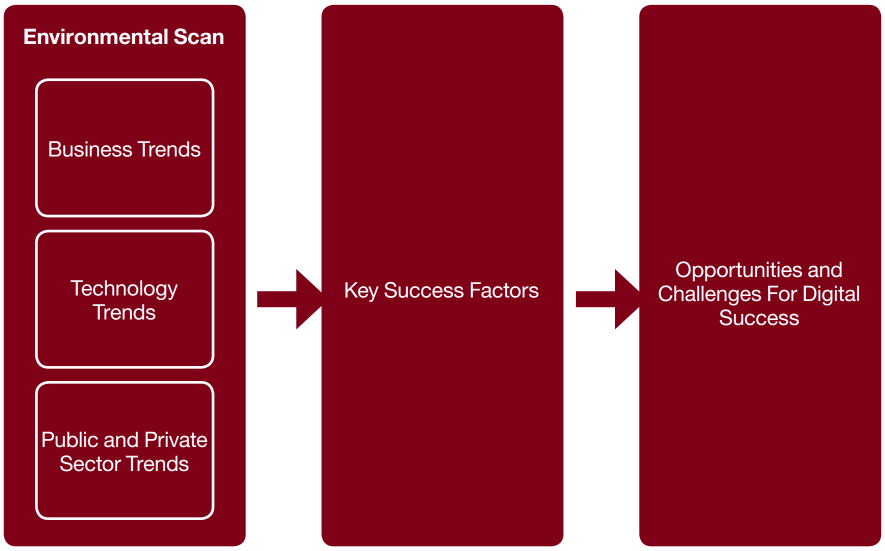
The objective of this paper is to i) provide an environmental scan of the business, technology as well as public and private sector trends affected by the Digital Transformation of the cultural media industries; and ii) identify the opportunities for success and challenges for the cultural media industries arising from the transition to a digital economy focusing on the opportunities, that are intended to drive and encourage Digital Transformation. This paper is jurisdiction agnostic and looks at the Digital Transformation of the cultural media industries around the world.

1. Ontario Ministry of Finance (MOF) (March 29, 2011), 2011 Ontario Budget, p.134.

1.2 Approach

To complete this paper, the approach described in the following illustration was taken:

Digital transformation study — Approach summary



A comprehensive literature review approach was used for identifying the trends related to Digital Transformation. Technology and business trends relevant to the cultural media industries were formulated from an in-depth review of 296 reports and articles from over 20 jurisdictions in North America, Europe, Asia and Australia. Specific observations on factors affecting the success of the cultural media ecosystem in the emerging digital context were gathered and synthesized. Additionally, the research conducted as part of the literature review identified how various jurisdictions may have achieved digital success. Public sector and industry initiatives used to facilitate Digital Transformation were assembled, including several examples of attempts by specific jurisdictions to respond to these technology and business realities.

From this trend overview, a set of Key Success Factors (KSFs) were then developed. The KSFs highlight the conditions necessary for creative media companies to successfully transition to the digital marketplace. Drawing from the environmental scan and the KSFs, potential opportunities for success and challenges to success arising from the transition to a digital economy were identified for the cultural media industries.

This study and related research was conducted between July and December 2010. The environmental scan was based on publically and readily available information related to the cultural media industries, as defined by the OMDC. Online or conventional literature search was used to gather the trends information. The summary of findings and the KSFs were reviewed with the OMDC.

2. Environmental scan of business, technology, public sector and industry trends in a digital world

The impact of the digital technology revolution is one of the largest issues facing the cultural media sector. It has a significant effect on how work is developed, delivered and consumed. The rise of digital technology, and its continual and fast-paced evolution, has changed the way all media in the cultural sector are created, produced, distributed, stored, protected and marketed to the public.

2.1 Business and technology trends

In the context of the significant changes being wrought by the fast moving digital environment, this section presents a summary of the business and technology trends identified from the literature review.

Collaboration — Collaboration is important across the creative value chain. An example of existing collaboration is the creation of digital urban "hubs"[2] (e.g. Montreal's Society of Arts and Technology) used as interfaces between physical and virtual spaces to promote collaboration.

Emerging business models — New business models are emerging allowing commercially viable digital consumption (e.g. iTunes, digital lockers – DECE Ultraviolet[3], Disney KeyChest[4], ePub, paywalls, "paid" apps, consumer rewarded advertising[5], freemium model[6]). As many models are emerging from the US or foreign-controlled, opportunities and remuneration for Ontario producers brings additional issues/barriers. Technology enables companies to monitor, store, measure, customize and bill for assets at a more fine-grained level than ever before[7] as faster and lighter electronic versions of content are emerging in all cultural media industries[8] (e.g. increased production of mobisodes, webisodes). Some paid digital content models have been successful but remain unpredictable and do not yet support the whole industry. Digital Transformation may reduce overall industry revenues, at least in the short term. Better and more timely advertising data is available[9], but results are questionable as the rate of innovation tends to outstrip the means to measure ad performance.[10]

From the consumer perspective, convenient and "frictionless" online content consumption drives more legitimate content acquisition. A growing proportion of business models are looking to generate at least some of their revenues from consumers and the limits of what consumers will pay for are still to be fully tested. Many consumers default to "free" content, but will pay when they assess it is of value, or if there are no other options. In exchange for free or discounted content, consumers are willing to share personal information which can be then be monetized. In this context, privacy concerns related to sharing personal information remain generally strong for consumers.

Digital piracy — Digital piracy has been a road block to the revenue generation of digital content. Legitimate alternatives and government initiatives are mitigating its impact (e.g. in South Korea, digital music sales rose 14 percent in the first half of 2010, after the new anti-piracy law went into effect in 2009[11]).

2. Cultural Human Resources Council (CHRC) (2009), Digital Media Content Creation Technology Roadmap.
3. http://www.businesswire.com/news/home/20100719006854/en/Digital-Entertainment-Content-Ecosystem-Unveils-UltraViolet%E2%84%A2-Brand
4. http://www.reuters.com/article/
5. http://www.adgenesis.com/idUSTRE60508P20100106
6. PricewaterhouseCoopers, Entertainment and Media Outlook 2010–2014.
7. McKinsey Quarterly report — August 2010.
8. PricewaterhouseCoopers, Entertainment and Media Outlook 2010–2014.
9. The Wire Report — April 2010.
10. OMDC (2008), A Strategic Study of the Magazine Industry in Ontario.
11. http://www.nytimes.com/2011/01/24/technology/24music.html?_r=2

Digital tools and processes — The digital tools necessary to create, produce and distribute content digitally are streamlining some processes (e.g. activities associated with monetizing content such as rights contract processing time or the ability businesses to book their own ads). The savings for the companies investing in those digital tools may not be as substantial as expected, at this point. Nonetheless dependence on multi-platform means companies need to invest in a range of tool and services (e.g. micro-billing, content management system, Content Rights Management (CRM), Digital Rights Management (DRM) systems). These digital tools also offer newer and wider opportunities by enabling companies to expand access to experts around the world, internal or external to the organization, and establish new innovation communities.

Vertical integration — Potential for exclusive content delivery via digital platforms (online, mobile) is becoming a competitive weapon. The power of various players across the value chain is shifting as controlling content on multiple platforms is causing a rethink of the competitive advantage of vertical integration by content producers, network providers and distributors. These shifts raise commercial and regulatory issues.[12]

Multi-format/platform distribution — Multi-format/platform distributions are impacting all creative industries. For example "Living Magazines" on e-readers are emerging in the Australian market as an attempt by publishers to provide richer and more customized experiences combining video and audio with text in a format that can be updated regularly.[13] Cloud computing and digital lockers are enabling this convergence.

Infrastructure — Reliable high-speed broadband networks are linked to innovation as speed and ease of access are vital to Digital Transformation. They enable firms to take advantage of digital opportunities and access international marketplaces or distant collaboration, e.g. Cinenet in Australia, a high-speed broadband data network created specifically for screen media industries.[14]

Social media — Social media is becoming a recognized means to access markets. Cultural media sectors in jurisdictions with avid users of social media have the opportunity to leverage this competitive advantage to successfully engagement with consumers and partners. Companies create value through web communities and social networks from product development to marketing and customer service. "Co-creation" becomes main stream[15] (e.g. Wikipedia, open source software developers, P&G Vocalpoint).

2.2 Public sector and industry trends

Jurisdictions within Canada and around the world are facilitating the digital transition of their creative media industries in various ways and at different levels of the creative value chain. Through the literature review, initiatives and programs in place in jurisdictions in Canada and around the globe were captured. This section provides a summary of the identified public sector and industry trends facilitating the digital transition of cultural media industries.

Ideation and innovation — To promote innovation in the media industry, some jurisdictions have created a collaborative environment, government-supported or not, by connecting companies and entrepreneurs looking to advance new media technologies with academic institutions. The academic institutions become responsible for undertaking related support and creating research centres or hubs for media companies, e.g. the New York Media lab[16], the Irvine Incubation Centre in California[17] and the Digital Hub[18] in Ireland, and the Communitech Hub located in Kitchener in Canada, dedicated to the growth and commercialization of Ontario's digital media industry.[19]

12. Telus submission to CRTC proceeding notified on: Broadcasting Notice of Consultation CRTC 2010-783, *Review of the regulatory framework relating to vertical integration.*
13. PricewaterhouseCoopers, Australian Entertainment and Media Outlook 2010–2014.
14. http://www.cine.net.au
15. McKinsey Quarterly — August 2010.
16 http://www.nycmedialab.org/
17. http://blog.digitalirvine.com/2010/06/04/the-irvine-incubation-center-%E2%80%93-ready-for-digital-media-entrepreneurs/
18. http://www.thedigitalhub.com/
19. http://www.communitech.ca/digital-media/the-communitech-hub/

Production and development — Some jurisdictions have established funds to stimulate the development of innovative, interactive content and attract co-investment for the private sector, e.g. the Digital Media Seed Fund in Scotland, available for early stage research and development of interactive digital media content and proof of concept or prototyping of interactive digital media content.

Tax credit mechanisms exist in a number of jurisdictions, including Ontario, to support production and development of creative media content in some of the entertainment and cultural media sectors, e.g. Ontario (Ontario Interactive Digital Media Tax Credit)[20], Quebec (Production of Multimedia Titles Tax Credit[21]), Louisiana (Digital Interactive Media Incentive[22]), France (with the "crédit d'impôt jeu vidéo"[23] – Video game tax credit).

Distribution and marketing — Initiatives were observed in some jurisdictions that enable distributors to utilize online tools and services to engage with and build audience for a film. The OMDC's Music Fund in Ontario is an example of business and digital capacity support which assists Ontario artists, producers and distributors to market and promote a completed music recording project. Another illustration of existing support in distribution and marketing is the International Financial Centre in British Columbia (IFC BC). IFC BC promotes British Columbia as a location for investment and encourages corporations to take advantage of the favourable tax treatment available. IFC BC added digital distribution to its activities in 2010.[24]

Infrastructure — A number of jurisdictions have created collaborative infrastructure to allow better connectivity among the creative media industry in the digital marketplace (e.g. Sohonet in the UK, a community-of-interest network for the television, film and media production community).

Workforce — To ensure that traditional media professionals have the skills necessary to succeed in a new media marketplace, some jurisdictions have launched training programs. These programs are intended to assist displaced or entrepreneurial junior to mid-level employees in exploring opportunities in new and digital media (e.g. JumpStart New Media[25] in New York City). Additionally, training funds have been established to provide training opportunities and career development for the creative industries workforce (e.g. Skillset[26] in the UK). Other initiatives in skills development and training include surveys of industry skill sets. The goal is to understand the experiences and challenges faced in learning and development by individuals working in a specific industry (e.g. SkillsForGames[27] survey in the UK, carried out by Nesta, Eidos and Double Negative in partnership with Skillset). In Canada, an increasing number of digital related academic programs have been developed in post-secondary institutions (e.g. Stratford Institute, OCAD). Many post-secondary institutions are attempting to meet the demand for digital skills by establishing programs in areas such as video games. Challenges they may face include the risk of dilution of the quality of education by spreading the talent of professors across the many academic institutions offering those programs, combined with the limited talent pool of academic staff available.

20. http://www.omdc.on.ca/Page3400.aspx
21. http://www.investquebec.com/documents/en/mesures_fiscales/FTTITRES_Specialisees_en.pdf
22. http://www.louisianaentertainment.gov/interactive/content.cfm?id=61
23. http://www.industrie.gouv.fr/portail/pratique/creditimpot_jeuvideo.html
24. http://www.ifcbc.com/activities-overview.htm
25. http://www.nycedc.com/PressRoom/PressReleases/Pages/MayorBloombergAnnouncesEightInitiatives. aspx
26. http://www.skillset.org/funding/skillset_funds/
27. http://www.skillsforgames.com

3. Defining success in a digital world

From the business, technology as well as public sector and industry trends gathered during the research analysis, a series of key success factors (KSFs) were developed.

3.1 Definition of key success factors

KSFs are identified as drivers of success for cultural media industries operating in the digital world. Those drivers enable, but do not guarantee, digital success. For the purpose of this report, the KSFs were categorized into two broad groups and a number of sub-groups:

1. **Underlying conditions** — those factors relevant to most companies at most times across all segments of the creative value chain. The sub-groups within the underlying conditions category of KSF are:
    - Talent Development and Training
    - Financing Environment
    - Digital Infrastructure
    - Overall Industry Structure
    - Regulation and Policy
2. **Value chain factors** — those that apply to a particular part of the creative value chain from ideation and innovation, through marketing and distribution. Value chain success factors are broken down into the following sub-categories:
    - Ideation and Innovation
    - Production, Development and Publishing
    - Distribution, Marketing and Engagement

This paper does not address the importance or prioritization of those KSFs.

3.2 Identified key success factors

Talent development and training

If cultural media industries are to be successful in the digital world, they must train, attract and retain talent with the appropriate skills. Indeed, if a given jurisdiction is to develop and sustain a successful digital economy, it is critical that a highly skilled talent pool is developed and maintained. To address this issue of developing talent, the Information Technology Association of Canada (ITAC) has recommended that "[w]e need: more children taking math, science and technology educational streams and more grads in related disciplines; more graduates with the right package of education (essentially more people with a combination of technology and business acumen); and better integration of skilled foreign workers".[28]

There are a number of factors that contribute to a robust talent and training environment ready to meet the challenges of the Digital Transformation. Those success factors and their rationale include the following:

- Presence of industry-based digital up-skilling and management/ business programs for mid– and senior-level personnel.
- Presence of a post-secondary system that teaches continuous learning in digital techniques; integrates business skills and management training for the cultural media industries; and promotes co-op programs.
- Presence of post-secondary institutions that are adaptable to the changing needs of industry, and work closely with industry to establish appropriate curricula.
- Presence of industry associations and representatives with the capacity to invest in the interaction and definition of training requirements for post– secondary institutions.
- A highly receptive environment for attracting creative talent, entrepreneurs, and top recruits from abroad.
- Coordination among post-secondary institutions to prioritize and provide highly complementary training.

Financing environment

As with all new activities, Digital Transformation will require new kinds of expenditures (for most companies). There are a number of mechanisms that may improve the availability of capital to firms in the cultural media industries. The financing environment best suited for the Digital Transformation of the cultural media industries can be characterized by the following criteria:

- Presence of a risk-tolerant equity investor community familiar with the cultural media industries
- Presence of a range of suppliers of credit financing (loans) offering a variety of products tailored to the cultural media industries
- Continuous review of tax credit and other production assistance programs

28. Entertainment Software Association of Canada (2010), Game on, Canada!, p. 9.

Digital infrastructure

Digital production of creative media products requires an appropriate infrastructure environment. Such an environment facilitates the ideation and innovation, production and distribution of these products. This infrastructure environment requires two principal aspects described below:

- Presence of widespread high-speed infrastructure offered through a variety of packages at attractive price points.
- Development of collaborative initiatives on an inter-firm basis to create new infrastructure. (e.g. Cinenet, Kiwi Advanced Research and Education Network (KAREN)).

Balanced industry structure

For a jurisdiction's cultural media industries to succeed in the digital context, it is important to maintain an industry structure, or balance of large and small companies, that allows for both international scale and agile innovation. Success factors related to this collaborative structure including the following:

- Presence of large locally-based anchor firms, either as customers, distributors, or suppliers.
- Presence of a large community of independent SMEs.
- Meaningful interplay between larger and smaller companies.
- Balance of firms engaged in content ideation and innovation, distribution, technology, software, advertising and other related industries and meaningful interplay between them.

Regulations and public policy

The public sector plays a significant role in the success of the Digital Transformation of the cultural media industries. For example regulation and policy environment factors conducive to a successful Digital Transformation include the following:

- Presence of balanced copyright legislation and compliance mechanisms.
- Presence of a widely understood digital rights framework and marketplace.
- Presence of legal, affordable and convenient online digital media electronic sell-through services (e.g. iTunes).
- Presence of effective inter-governmental policy/program coordination.
- A defined national digital strategy.
- Relevant policy and programming developed in consultation with industry that considers all aspects of the creative value chain.

Success along the value chain

There are a number of activities along the creative value chain, essential to the success of a digital cultural media industries jurisdiction. These factors along the three high level segments of that chain — ideation and innovation, production and distribution– are presented below.

Ideation and innovation

Given the constantly shifting and ever-evolving nature of digital technology, the development of new creative ideas and the development or improvement of new products or processes are both critically important to the success of a jurisdiction's cultural media industries. The factors related to innovation and ideation that contribute to a successful Digital Transformation include the following:

- Ability of firms to experiment with shifting business models and invest in emerging technologies;
- Ability of firms to have affordable access to strategic intelligence (e.g. industry sales statistics, technology trends);
- Presence of science and technology academic institutions conducting research in close collaboration with industry;
- Presence of digital media firms with a strong IP foundation and technology infrastructure;
- Presence of academic-industry co-development centres (e.g. hubs, incubators) that have a cultural media focus.

Production, development and publishing

In the digital world, cultural media industries' success rests, to a large extent, on the quality of the products it creates. As such, production (for film, TV and music products), development (for IDM products) and publishing (for magazine and book content) techniques and technologies must be kept up to date if a jurisdiction is to make a successful Digital Transformation. Those factors relating to the production, development and publishing of creative content that are critical to a successful Digital Transformation include:

- Ability of companies to produce for multiple digital platforms;
- Ability of companies to work user/audience feedback into the production (and ideation) of new content;
- Company use of digital technologies to streamline and/or automate workflow processes;
- Availability of affordable essential digital production tools;
- Implementation of content management systems;
- Firm-level industry collaboration.

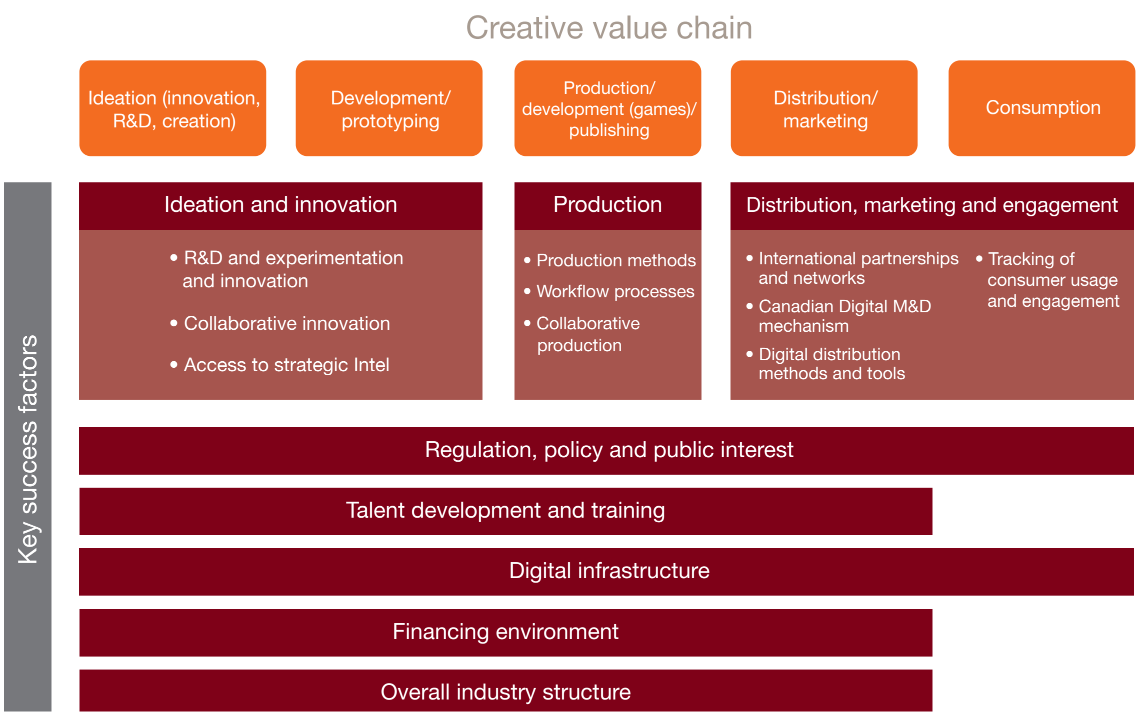
Distribution, marketing and engagement

In a digital context, borders are harder to maintain and competition is fierce. As such, the successful distribution (e.g. to international markets) and marketing of cultural media industry products is essential. Additionally, one key advantage to the use of digital distribution and marketing mechanisms is the ability to accurately, and often instantaneously, measure user engagement and purchase habits. The distribution, marketing and engagement factors that define success in a digital context include:

- Access to a variety of competing domestic on-line distribution channels, including aggregators, as it is important to retain revenue from content distribution in jurisdictions that produce that content to build and sustain a digital economy.
- Producer/label/publisher ability to make use of on-line marketing and distribution mechanisms (e.g. social network tools) and gain awareness in the global content marketplace.
- Integration of advertising and branded entertainment.
- High penetration of smart phones and other mobile devices.
- Traditional distributor willingness to use online content/apps to support traditional distribution platforms.
- Development of multiple micro-payment options.
- Company (and government) access to improved measurement mechanisms to track consumer usage.
- Growing sophistication in exploiting the analytics of on-line tracking systems.

3.3 Summary of key success factors

In summary, to assess the ability of a jurisdiction to implement a successful Digital Transformation, the study identified a series of KSFs, which enable, but do not guarantee, digital success. These KSFs are summarized and mapped to the creative value chain depicted in the following illustration:



4. Summary of opportunities and challenges

Drawing from the global environmental scan and key factors to digital success identified, this section is a high level commentary on the most likely opportunities and challenges to success arising from the transition to a digital economy for the cultural media industries.

4.1 Opportunities for success

The move to digital is about leveraging new digital capabilities to achieve transformative business and operating models. These capabilities open the door to a vast range of opportunities for the creative media industries including, but not limited to, access to a global market, multi-platform distribution, greater consumer engagement, improved collaboration, and the development of innovative products and services monetized through new business models. The following paragraphs expand on those opportunities. After each section, a table links the opportunity described with the trends observed and KSFs identified in Sections 2 and 3 respectively.

Access to a global marketplace — In a digital world, audience lines have blurred both geographically and demographically. Digital technology enables firms to access international marketplaces defined either as geographical areas or groups of common interest areas. Making use of digital marketing and distribution mechanisms, such as social network tools, represents opportunities for a jurisdiction to facilitate the promotion of local digital products to domestic and international markets. It also enables independent content creators to engage in promotions and direct marketing with end-consumers relatively inexpensively. Developing domestic online distribution channels, including aggregators, will maximize opportunities for generating online revenues for a jurisdiction. It will also reduce revenue loss to dominant foreign electronic sell-through services such as iTunes.

Additionally, digital technology facilitates access to a global market by providing companies with the ability to produce for multiple formats and multiple platforms (e.g. online, TV, mobile) without having to re-purpose content. Those newer and wider opportunities cannot be achieved without investment or co-investment in digital tools (e.g. micro-billing, content management system, CRM, DRM systems). Global market access also means having the ability to work with industry experts around the world, which is an opportunity to create additional value from product development to marketing and customer service. Lastly, having affordable access to global strategic intelligence enables firms to make sound strategic decisions with respect to new and existing products. It allows firms to gauge performance of their products and to make appropriate adjustments.

Opportunity	Trends observed	Identified KSF
Access to a global marketplace	Social media is becoming a recognized means to access and engage with consumers in new ways. Digital tools enable companies to expand access to experts around the world, internal or external to the organization, and establish new innovation communities. The digital tools necessary to create, produce and distribute content digitally are streamlining some processes (e.g. rights contract processing time or the ability businesses to book their own ads).	Access to a variety of competing domestic on-line distribution channels, including aggregators, to reduce revenue loss to foreign aggregators. Producer/label/publisher ability to make use of on-line marketing and distribution mechanisms (e.g. social network tools) and gain mindshare in the global content marketplace. Ability of companies to produce for multiple digital platforms. Ability of firms to have affordable access to strategic intelligence (e.g. industry sales statistics, technology trends, etc.).

New business models focused around multi-platform distribution and consumer engagement — Traditionally content would be created for a single platform, with a specific target audience of viewers, readers, listeners or gamers. Today, content is almost always going to be distributed across multiple platforms and multiple formats. Multi-format/multi-platform distribution creates opportunities to increase the value proposition of content producers and distributors, by offering consumers access to "content everywhere", which results in new monetization model.

The evolving expectations of the digital consumer to have a more intimate, real time, flexible and transparent relationship with their brands and products, is encouraging the creative media industries to adapt their business models to a digitally enabled services based relationship. In a digital world, audience feedback can be instantaneous and either supportive or critical. Access to this information is an opportunity for creative media companies to engage with and better understand their audience. It allows for more responsive, tailored content to be created.

Opportunities for new commercially viable digital consumption models are created as digital capabilities enable companies to customize, measure and bill for content at a more granular level. The continued digitization of data, content and other information enables content producers and distributors to efficiently retrieve, repackage and/or repurpose existing content under new product and service offerings. Having the ability to offer frictionless (i.e. intuitive and requiring minimal effort for the consumer) online content consumption will drive opportunities for more legitimate content acquisition. There is increasing evidence that consumers value experiences and will pay for them. The ability to develop and distribute digital content in real time on multiple platforms creates the opportunity to sell digital products directly related to the experience rather than after the fact, when the consumer has a much lower value perception.

Opportunity	Trends observed	Identified KSF
New business models focused around multi-platform distribution and consumer engagement	Emerging new business models allowing commercially viable digital consumption (e.g. iTunes, digital lockers, ePub, paywalls, "paid" apps, consumer rewarded advertising, freemium model). Multi format/ platform distributions are impacting all creative industries, enabled by cloud computing and digital lockers. "frictionless" digital content consumption drives more legitimate content acquisition. Many consumers default to "free" models but will pay for value (e.g. experiences). "Free" or discounted model in exchange of personal information can be monetized through advertising.	Integration of advertising and branded entertainment. High penetration of smart phones and other mobile devices. Traditional distributor willingness to use online content/apps to support traditional distribution platforms. Development of multiple micro-payment options. Growing sophistication in exploiting the analytics of on-line tracking systems. Company (and government) access to improved measurement mechanisms to track consumer usage. Ability of companies to work user/audience feedback into the production (and ideation) of new content. Ability of firms to experiment with shifting business models and invest in emerging technologies.

Increased collaboration — The successful jurisdictions will be those who can enable their creative media industries to most effectively collaborate with digital partners. Collaboration is important across the creative value chain, from innovation to distribution and marketing. Collaboration can take place at different levels, including:

- Collaboration between post-secondary institutions and cultural media industry firms is critical to developing academic programs that will generate new digital workers. Also close interaction between cultural media industries and academic researchers from science and technology institutions fosters innovation through the formation of new partnerships around experimental digital media projects.
- Inter-firm level collaboration — Digital technologies, such as a reliable high-speed broadband networks, enable firms to access distant collaborators and improve ability for local firms to compete globally in terms of Research and Development and innovation. They also offer opportunities to access experts around the world and create new innovation communities. Domestic and international web-based collaboration between digital media industries creates opportunities to access digital tools, digital media specialists, services and/or equipment necessary to create produce and distribute content digitally (e.g. new infrastructure, DRM or content management system) with limited investment.
- Cross-media industry collaboration enables the production of integrated digital media products (e.g. magazines or books + IDM or TV). It also enables knowledge transfers from digitally advanced cultural media industries to those struggling with the transition.
- Inter-governmental collaboration around policy and program coordination is an opportunity to address incompatibilities among digital strategies, policies and programs offered at all levels of government in a given jurisdiction. It also promotes the development of strong sub-sectors within the cultural media industries that prompts the relocation of digital media firms to a jurisdiction.

Opportunity	Trends observed	Identified KSF
Increased collaboration	Collaboration across the creative value chain between companies, entrepreneurs, academics and government. "Co-creation" through web communities and social networks. Creation of research centre or hubs for media companies. Collaborative infrastructure to allow for better connectivity among the creative media industry in the digital marketplace (e.g. Sohonet).	Availability of affordable essential digital production tools. Implementation of content management systems. Firm-level industry collaboration. Meaningful interplay between larger and smaller companies. Development of collaborative initiatives on an inter-form basis to create new infrastructure. Presence of effective inter-governmental policy/program coordination. Relevant policy and programming developed in consultation with industry that considers all aspects of the creative value chain. Presence of widespread high-speed infrastructure offered through a variety of packages at attractive price points. Development of collaborative initiatives on an inter-firm basis to create new infrastructure. (e.g. Cinenet, Kiwi Advanced Research and Education Network (KAREN)).

Lower barriers to entry — The shift of media companies to a digital world generally reduces the barriers to entry to the cultural media industries. Digital Transformation creates opportunities to produce, distribute and market content at a lower cost. Digital production methods reduce the costs associated with the over production of physical stock, including raw material shipping, handling and storage. Also the transition to digital provides firms with the flexibility to customize supply to meet demand, which can range from mass orders to niche requests, to single copies. Digital production allows firms to more cost effectively develop their own digital content, with less dependencies on production partners (e.g. printing partners for book and magazine publishing) to ensure high quality and maintain control over the sale or licensing of rights of content.

Additionally, digital skills are critical to the success of digital media companies. Industry-ready digital workers, both technically trained and with business acumen, can grasp opportunities sometimes faster than senior experienced staff, who need to upgrade their skills to understand and adapt to the digital environment.

Opportunity	Trends observed	Identified KSF
Lower barrier to entry	Establishment of funds to stimulate the development of innovative interactive content. Digital media training programs and training funds. Digital related academic programs.	Company adoption of digital production methods. Presence of a post-secondary system that teaches continuous learning in digital techniques; integrates business skills and management training for the cultural media industries; and promotes co-op programs. Presence of post-secondary institutions that are adaptable to the changing needs of the industry and work closely with industry to establish appropriate curricula.

4.2 Challenges to success

Overall, finding strategic positioning within the digital ecosystem where new competitors and potential partners are emerging at the same time as new markets are developing is a key challenge for all industries, including the cultural media industries. New organizational models and skills in the workforce are required. Companies need to find a balance between preserving and supporting the traditional business while investing in new business opportunities. This section summarizes the key areas cultural media industries are struggling with, while going through their Digital Transformation. The table after each section links the challenges area described with the trends observed and KSFs identified in Sections 2 and 3 respectively.

Financing — One of the major challenges cultural media industries are facing while transitioning to the digital world is accessing additional capital. This capital is needed to finance investments in training, digital tools, innovation and experimentation, and marketing/distribution. While financing is not a new issue to the Digital Transformation, if cultural media industries firms are to succeed, they must have access to new, innovative financing mechanisms that speak to the varied needs of the sector. Some stable, low margin firms would benefit more from access to debt-financing, whereas higher growth potential firms and projects require access to equity financing. Additionally, although all the tax measures offered by various jurisdictions indirectly support corporate success, a limitation of some existing project based tax credits is that it does not always directly support cultural media companies' investment in elements such as training, purchase of new equipment and tools related to Digital Transformation. Furthermore, accessing financial support for digital marketing and distribution expenditures is critical to cultural media industries companies, particularly as they are or become more internationally focused. This area of the creative value chain is not always well supported today by public and private sector initiatives. Expanding the eligibility for those types of investments (i.e. training, purchase of new equipment, marketing and distribution expenditures) might be beneficial to the Digital Transformation of the creative media industries. This increase in funding eligibility could be done in a way that results in redeployed rather than additional public funding.

Challenge	Trends observed	Identified KSF
Financing	To promote innovation in the media industry, some jurisdictions have created a collaborative environment (government-supported or not) by connecting companies and entrepreneurs looking to advance new media technologies with academic institutions. Some jurisdictions have established funds to stimulate the development of innovative, interactive content and attract co-investment for the private sector. Tax credit mechanisms exist in a number of jurisdictions to support production and development of creative media content in some of the entertainment and cultural media sectors.	Presence of a risk-tolerant equity investor community familiar with the cultural media industries. Presence of a range of suppliers of credit financing (loans) offering a variety of products tailored to the cultural media industries. Continuous review of tax credit and other production assistance programs (e.g. OMDC routinely reviews its programs and activities for effectiveness and efficiency and regularly recommends alterations to the tax credit programs it administers to enhance their value and impact).

Workforce — Another challenge to success in the digital transition of a jurisdiction is the lack of trained workforce. Generally, there is a need to increase the level at which training related to the digital transition is offered to the cultural media industries. Because the Digital Transformation increases the pace and complexity of the cultural media business environment, it is critical that training includes both digital training and business training. Such training is needed in both entry-level and more senior parts of the sector. Training needs to be timely and flexible in its delivery. Both academic and "in company" training programs are necessary to ensure that cultural media industry firms have industry-ready digital workers and are managed and led by digitally-savvy personnel.

Challenge	Trends observed	
Workforce	To ensure that traditional media professionals have the skills necessary to succeed in a new media marketplace, some jurisdictions have launched training programs (e.g. JumpStart New Media in New York City). Training funds have been established to provide training opportunities and career development for the creative industries workforce (e.g. UK Skillset). Other initiatives in skills development and training include surveys of industry skill sets. Many post-secondary institutions are attempting to meet the demand for digital skills by establishing programs in areas such as video games.	Presence of a post-secondary system that teaches continuous learning in digital techniques; integrates business skills and management training for the cultural media industries; and promotes co-op programs. Presence of post-secondary institutions that are adaptable to the changing needs of industry, and work closely with industry to establish appropriate curricula. Presence of industry associations and representatives with the capacity to invest in the interaction and definition of training requirements for post-secondary institutions. Presence of industry-based digital up-skilling and management/ business programs for mid– and senior-level personnel. A highly receptive environment for attracting top creative talent, entrepreneurs, and recruits from abroad. Coordination among post-secondary institutions to prioritize and provide highly complementary training.

Resources for experimentation and innovation — In the digital content marketplace, innovation is important for success. Whether innovation is achieved in terms of new products (whose technical aspects can often not be detached from its content aspects), business models, or process improvement, it should be encouraged. Many firms have noted that they lack sufficient resources to 'experiment' with innovations that may or may not be profitable. Support is needed to encourage companies to experiment with innovative methods. This support can include early stage experimentation financing, increased collaboration between firms and academic institutions, or affordable access to strategic intelligence to enable firms to make sound strategic decisions with respect to new and existing products.

Challenge	Trends observed	Identified KSF
Resources for experimentation and innovation	To promote innovation in the media industry, some jurisdictions have created a collaborative environment (government-supported or not) by connecting companies and entrepreneurs looking to advance new media technologies with academic institutions. The academic institutions become responsible for undertaking related support and creating research centres or hubs for media companies.	Ability of firms to experiment with shifting business models and invest in emerging technologies. Ability of firms to have affordable access to strategic intelligence (e.g. industry sales statistics, technology trends, etc.). Presence of science and technology academic institutions conducting research in close collaboration with industry. Presence of digital media firms with a strong IP foundation and technology infrastructure. Presence of academic-industry co-development centres (e.g. hubs, incubators) that have a cultural media focus.

Access to consumers — There is an emerging consensus that international marketing and distribution of content is critical. If in some cultural media industries (e.g. IDM, film and music), the global market has always been paramount, digital technology enables global distribution and marketing to become more the norm for all cultural media industries (e.g. increasing competition in TV from so-called "over-the-top"[29] competitors). Access to consumers' information, including consumption habits and usage, enables companies to gauge the performance of their products and services and tailor them more precisely to consumer needs. It leads to more market-oriented content and application development and the creation of new business models. Access to consumer data is a challenge for many content producers in the cultural media industries in the digital space, as they become disengaged from their consumers when distributing content through larger international aggregators. Therefore the cultural and media industry needs to allocate more resources to access a variety of competing domestic digital distribution channels. These domestic services, which can include content aggregators, serve to retain a greater share of revenues in a given jurisdiction rather than have revenue lost to foreign aggregators that tend to be partnered with dominant digital content storefronts. Public policy should likely shift as well to encourage more investment by domestic and foreign digital distributors.

Challenge	Trends observed	Identified KSF
Access to distribution	Initiatives were observed in some jurisdictions that enable distributors to utilize online tools and services to engage with and build audience for a film (e.g. Digital Newsstand initiative from Magazines Canada (National Trade Association of Magazines in Canada) supported by the OMDC Entertainment and Creative Cluster Partnership Fund). Potential for exclusive content delivery via digital platforms (online, mobile) is becoming a competitive weapon. The power of various players across the value chain is shifting as controlling content on multiple platforms is causing a rethink of vertical integration.	Presence of a widely understood digital rights framework and marketplace. Presence of legal, affordable and convenient online digital media vending services. Relevant policy and programming developed in consultation with industry that considers all aspects of the creative value chain. Access to a variety of competing domestic on-line distribution channels, including aggregators. Producer/label/publisher ability to make use of on-line marketing and distribution mechanisms (e.g. social network tools) and gain mindshare in the global content marketplace. Company (and government) access to improved measurement mechanisms to track consumer usage. Growing sophistication in exploiting the analytics of on-line tracking systems.

29. These "over-the-top" services are those that bypass the traditional broadcasting system – and include web-based streaming services like Netflix and Hulu (US), download services such as iTunes, and new content access points including video game consoles and newly-equipped TVs.

5. Conclusion

Digital Transformation is touching the cultural media industries in jurisdictions around the world in different ways, and the rate of change is staggering. Generally, the opportunities arising from the move to a digital economy include the access to a global market, the development of new business models built around multi format/platform distribution and customer engagement, the increased collaboration among cultural media industries actors (industry firms, academic institutions, government), and lower barriers to entry for new industry players.

At the same time, cultural media industries are faced with major challenges when transitioning and adapting to the digital world. First, access to additional financing to experiment with innovative ideas, invest in new digital tools and/or train and develop digital talent is one of the major challenges to the transformation of the cultural media industries. Second, the lack of trained digital workers, both entry-level and senior staff, is a critical issue cultural media companies need to address to be successful in their digital transition. Third, cultural media industries need dedicated resources to experiment and innovate with digital initiatives, and those are often lacking. Lastly, access to distribution channels and consumer data is critical to the success in a digital economy and it remains a major challenge for most cultural media industries. These challenges will require creative approaches, ones based as much on the redeployment of existing resources as on accessing new ones.

pwc.com/ca