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**Working paper TOPIC 4 – IMPACT AND OPPORTUNITIES
OF DIGITAL REVOLUTION**

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Executive summary

Digital revolution has profound impacts on all aspects of cultural value chain and represents an unprecedented change in creation, production, distribution, broadcasting and consumption of cultural goods and services as well as in the remuneration of creators. In this view, digital technologies have positive and negative aspects in cultural sectors, according to how they are applied in national and regional contexts. In remote areas the question of the adjustment of local industries to the new technological opportunities becomes a key challenge to continue serving local and regional markets and accessing eventually global markets. Recent developments, such as the dematerialization of cultural products, the direct connections between creators and consumers, the convergence blurring the boundaries between cultural production, distribution and consumption and the increased cross-national connectivity, but also the impact of digital revolution on cultural behaviour and identity, raise a number of challenges and opportunities. Among these, the digital divide is still a barrier preventing access to culture in many developing countries. The globalised cultural offer and access increases the quantity and availability of cultural works, but not necessarily their visibility and diversity. The over-concentration of data on a small number of privately-owned global platforms implies that investment in cultural and digital infrastructure is driven mainly by economic interests and market optimization. Moreover, the issue of intellectual property protection is crucial insofar as copyright legislation is strongly affected by the transnational and intangible nature of online companies and the lack of updated norms. Finally the huge creative possibilities offered to artists by machine learning and artificial intelligence remain still largely untapped. Such complex and stringent issues need to be addressed at national and international level in a proactive way, by promoting regulatory and legal changes as well as incentivising the technological adequacy processes of local cultural industries in the developing countries.



1. Context and background

Digital technologies have increasingly transformed the whole cultural value chain and they have represented an unprecedented change in creation, production, distribution, broadcasting and consumption of cultural goods and services as well as in the remuneration of creators. The reality of the dematerialization of cultural goods and services, technological convergence and deterritorialisation of cultural content raises tremendous challenges for the *raison d'être* of cultural policies and for international cultural cooperation, turning also upside down entire cultural industries, such as film, music and book publishing. As 2018 UNCTAD (United Nations Conference on Trade and Development) [report](#) on creative industries explicitly pointed out: “digital disruption is the key trend influencing the future of the creative economy, especially in developing economies”. In this context, over the last six years, several involved actors have debated on opportunities and challenges of the advent of the digital age and on perspectives for aligning policy tools with the development of digital technologies.

The most representative example at multilateral level is the [Convention on the Protection and Promotion of the Diversity of Cultural Expressions](#). The Convention adopted by UNESCO in 2005 – and in effect since 2007 – is a key international instrument in the global and multi-level governance of culture². As of May 2019, it has received the support of 145 Member States and of the European Union (EU). In June 2017, the Parties to the 2005 Convention approved [Operational guidelines](#) of the Implementation of the Convention in the Digital Environment in order to take into account the new economic and industrial environment created by digital technologies and reaffirm the main principles of the 2005 Convention in the digital context³. These guidelines provide a strategic framework for understanding, interpreting and implementing the Convention in a digital environment where cultural goods and services are created, produced, distributed, disseminated, consumed and/or stored electronically⁴. In December 2018, UNESCO published an [open road map](#) for the implementation of guidelines to promote the diversity of cultural expressions in the digital environment⁵.

Moreover, during the period 2013-2018, several policy documents have been published, dealing with the challenges of cultural policy-making in the digital age and how the actors involved could strengthen the cultural ecosystem in the changing technological environment. These policy documents (see list of this literature in the Annex) offer a more comprehensive view of challenges and opportunities for cultural sectors due to

² Antonios Vlassis, *Gouvernance mondiale et culture: de l'exception à la diversité*. Liège, Presses universitaires de Liège, 2015.

³ Antonios Vlassis, “Building a digital agenda for the diversity of cultural expressions: UNESCO, new governance norms for culture and power dynamics”. *Quaderns del CAC*, 43, 2017: 47-54.

⁴ Lilian Richieri Hanania and Anne-Thida Norodom (eds), *Diversity of cultural expressions in the digital era*, Teseo Press, 2016.

⁵ This document can be consulted on

https://en.unesco.org/creativity/sites/creativity/files/12igc_9_roadmap_og_digital_en.pdf



digital technologies. In addition, the proliferation of policy documents reveals that the shared concern of several actors - such as national governments, international organizations experts, non-governmental organizations, cultural industries – regarding the link between digital technologies and culture goes hand in hand with political and legal uncertainties about the way forward. :

2. Main challenges and opportunities

As stressed by several policy documents, digital technologies have positive and negative aspects in cultural sectors and they can be regarded as both an opportunity and challenge for cultural industries, according to how they are applied in local, national and regional contexts. Digital technologies have profound impacts on all aspects of cultural value chain and they can generate a diverse and dynamic cultural economy or amplify the process of concentration regarding the distribution of cultural content, creating at the same time legal and economic uncertainties for creators. In other terms, the digital ecosystem does not automatically generate benefits and opportunities for cultural industries from developing countries and least developed countries and it does not spontaneously promote diversity of cultural expressions. In this view, as stressed by Jeffrey Hart, “political institutions can influence the way in which digital technology is introduced and deployed in a variety of ways”⁶.

Yet, the existence of pressing issues related to culture and digital technologies does not automatically give rise to governance arrangements to meet them. The design and implementation of governance arrangements require political entrepreneurs with the ability not only to move the debate forward, identify and promote new issues and suggest proposals, but also to pick and choose among the range of possible emerging claims, launching some issues to prominence and side-lining others⁷.

Based on policy documents mentioned above, we could identify four systemic processes, which are taking place in the cultural sectors due to the digital revolution:

- dematerialization: it means that we no longer pay for the ownership of a cultural good but for accessing content through Internet access services; cultural products become intangible digital data;
- desintermediation: weakening of traditional intermediaries; digitization leads to immediate connections between creator-consumer or consumer-consumer;
- convergence: previously separate areas of activities are increasingly integrated, blurring the boundary between cultural production, distribution and consumption;

⁶ Jeffrey Hart, “Toward a Political Economy of Digital Culture: From Organized Mass Consumption to Attention Rivalry” In Singh J. P. (ed.), *International Cultural Policies and Power*, New York: Palgrave Macmillan, 2010: 56-62.

⁷ Charli Carpenter, “Governing the global agenda: gatekeepers and issue adoption in transnational advocacy networks”. In: Avant D., Finnemore M., Sells. (eds). *Who Governs the Globe?* Cambridge: Cambridge University Press, 2010: 204.



- deterritorialisation: facilitation of global cultural and artistic exchanges; increased cross-national connectivity that overcomes boundaries.

We can emphasize six key challenges and opportunities for cultural sectors due to the digital revolution. The identification of these challenges and opportunities is necessary in order to undertake a diagnosis of the impact of the digital revolution on cultural industries, practices and policies.

Digital divide

Several policy documents mentioned above stressed a persisting digital fracture in many countries in the Global South (and even in the Global North) despite ambitious national strategies and increasing mobile telephone penetration. Numerous communities and populations in the world are still deprived of Internet connection, as emphasized by the [Global Internet Report of the Internet Society](#). The digital divide remains a crucial issue and is still a barrier that prevents citizens from making full use of key advantages in terms of access to culture.

On the one hand, the digital divide persists across different sectors and different groups of people: the most excluded would be ethnic minorities, rural residents and people with less economic and educational resources. Women are also at risk of having reduced access to digital tools. The digital divide is not only about lack of technologies or lack of access to resources but also gender discriminations within the industry and lack of skills therefore adequate education and female-led mentorship programmes are key instruments. On the other hand, digital infrastructure strategies could have a direct impact on the whole cultural ecosystem. For instance, in Colombia, the Vive Digital plan ([Live Digital plan](#)) for 2014-2018 seeks to improve internet access – particularly in rural areas – and to encourage the development of digital content and applications aimed at the poorest communities.

The [digital divide](#) is related to uneven deployment of connection networks and telecommunications infrastructures and on the other hand to disparities linked to the degree of use and digital illiteracy. Moreover, national infrastructure strategies often involve several ministries, such as technology, industry, communications, but not ministries of culture – and this fact can have ambiguous impact on challenges related to cultural sectors. Indeed, avoiding the digital fracture should be a main part of cultural policies.

To this it should be added that a new question arises: in societies where Internet access is ubiquitous, if and how access to digital culture can compensate the exclusion from physical cultural activities and facilities. In the [Republic of Korea](#), for the younger generations who suffer from unemployment and low income, consuming digitized culture online is perhaps the only way to live their cultural life.



Cultural offer and access

The [dematerialization of culture](#) creates major opportunities for the cultural sector, such as greater affordability of cultural products, possible reduction of access inequalities and possibility to reach dispersed and far away publics, greater freedom of choice of cultural content. Clearly, new technologies imply major advantages in terms of access to cultural expressions. In the context of a globalised cultural offer, online platforms contribute to increase the quantity and availability of cultural works from developing countries. De-materialization potentially lowers the cost for cultural production and distribution and could potentially broaden public access. Digital distribution allows for greater consumer choice and immediacy between consumers and creators.

However, there are tensions around control of digitized cultural content and its online flows. While acknowledging that digital technologies offer several possibilities in terms of cultural flows, the lack of visibility of a great amount of cultural goods and services in the digital environment emerges as a pressing issue. In this view, this abundance of online contents and the variety of distribution platforms do not mean that the consumed cultural content is diversified. To put it simply, abundance of content does not generate automatically diversity of content. As [D. Tchehouali noted](#), whereas it is technically feasible for digital platforms to contribute to the diffusion of various cultural expressions, of new talents and unrecognized artists throughout the world, their algorithms favour the promotion of the most profitable cultural content.

In other terms, the activity of these global platforms, - which function as gatekeepers within the digital arena - constitutes a sort of “[bottleneck](#)” that ensures visibility to specific cultural contents at the expense of others. As a result, the “long trail” – a metaphor which refers to the great availability of cultural contents through digital networks – becomes in reality a “long invisible trail”. Even though data on visibility of cultural content is limited, Netflix recently released the first Top10 lists of most-watched content (TV series and films) on the platform in the United Kingdom. It is revealing that these [lists](#) include exclusively US and/or English-speaking TV series and films. In a similar vein, in [France](#), the top-20 most-consumed content on video-on-demand platforms include only two non-US programs (the series La Casa de papel and Black Mirror) in 2018.

Multi-directional flows and concentration

The context of [disintermediation](#), namely the weakening of traditional intermediaries, creates direct relationship between creator and consumers, enables new forms of financing, such as participative financing and helps to diversify the profile of creators. However, it also can amplify process of over-concentration and the emergence of powerful online platforms controlling data, content and networks. In this sense, online



platforms, operating according to commercial business logic, are disseminators of dominant values and ideas. At the same time, they are also sites where multi-directional cultural flows take place and where non-mainstream creators can advocate and disseminate their work. For instance, in Niger, the NGO Culture Art Humanité and other associations brought online the portal [Niger Cultures](#), a participatory tool, which contributes to the visibility of creators in Niger and the collection of cultural data. So far, more than 400 artists have registered.

All the policy documents mentioned above illustrated that the trend of concentration becomes more visible in online platforms. Although there are newcomers and start-ups, production and distribution of digital cultural content is defined by concentration rather than diversity and there is also a risk for small and medium-sized players, given the advance of big platforms; in this view, in [several developing countries](#), “there is a noticeable domination by a few global and several large-scale domestic companies”. In addition, online platforms are often free from the existing regulation on analogue media, generating a more deregulated and marketized area, which favours the most powerful players. As the debates on the new EU Audiovisual Media Services Directive and on the new EU Copyright Directive showed, local, national and regional regulations in terms of cultural industries have been weakened by the transnational and deterritorialized activities and commercial strategies of global platforms.

Data

The rise of global platforms, such as Netflix, Spotify, Amazon, Facebook or YouTube creates a big challenge in terms of statistics, insofar as these multinational firms have privileged access to global big data. Data is a necessary component in order to elaborate and implement targeted and efficient policy measures in the cultural sector and appropriate strategies for the future. It is important to say that large platforms are not simply online intermediaries, they are “data companies”. [As O. Kulesz pointed out](#), “in the case of the large platforms, the enormous volume of information they handle is usually beyond the scope of national statistics (...) In fact, while countries do not always have precise information on digital consumption, online platforms have such Mastery of Big Data that they are better placed to know how local cultural trends than the public sector itself”. Crucially, the restricted access to data relating to the number of users, traffic source, digitally generated wealth, cultural content visited and accessed raises issues in terms of transparency and accountability. Without countering this risk, it will be more difficult to detect changes that have occurred in the cultural economy at the regional, national or local levels. As a result, stakeholders run the risk of losing their ability to design and implement efficient and targeted initiatives in the cultural sectors.

In a similar vein, several governments in developing countries are not active - or have no available resources - in gathering data related to digitised cultural goods and



services, leaving this job to the private sector. One of the key implications is that investments in cultural and digital infrastructure is driven by economic interests, market optimization and investment priorities. “[As a policymaker](#) in Thailand highlights, private telecommunications companies tend to invest heavily in cities due to the potential of high returns which results duplication while in rural areas there is little or no ICT infrastructure”. Data that is used for market optimization can also result in ignoring the needs of groups of people – such as minorities – where there is low or little return in investment.

Economy of sharing, artistic freedom and remuneration

The digitization of cultural economy redefines the relationship between cultural works, creators and cultural industries. At the regulatory level, the online diffusion of cultural content triggers challenges related to value of cultural works and fair remuneration of creators. In this regard, the issue of intellectual property protection is crucial insofar as copyright legislation is strongly affected by the transnational and intangible nature of online companies and the lack of updated norms. Clearly, copyright and royalties remain a key instrument protecting the career of artists and their creative works. As the [report](#) on ACP (African, Caribbean and Pacific) countries underlined, “cultural industries could generate much greater revenue for the ACP if copyright were better managed”.

However, it is worth acknowledging that copyright protection is still a contested area and the unauthorized online sharing of cultural contents has [double sided effects](#). On the one hand, new technologies are becoming the instruments through which creators publicly display and promote their work and digital spaces can convey messages of cultural actors beyond traditional government-controlled media. For several creators, going online can be the only way to find freedom of cultural expression when there is strict content regulation for physical cultural activities. In addition, digital technologies offer unprecedented access to a range of cultural goods, which could make people more aware of other cultures/groups/identities, etc. The online sharing can facilitate cultural flows between societies, including grass-root, non-commercial cultural exchanges and enhancement of mutual understanding between societies. Clearly, as noted by C. de Beukelaer and M. Friedriksson, [discussions](#) about copyright protection “uncritically rely on the assumption that piracy is inevitably destructive to cultural and economic development”.

On the other hand, online platforms could also be [blurred spaces of control](#) where artists receive threats to their rights and – artistic – freedoms: internet censorship, online ‘trolling’ and harassment, posts and accounts blocked, etc. Furthermore, the negative side of the online sharing is potential copyright infringement, potential decrease in audiences for domestic products and remuneration of creators at risk. In this view, policies should find a way to reconcile fair remuneration of authors and economy of



sharing. For example, [Ghana's conflicts on piracy](#) in 1987 and 2012 reveal that the search for contextualised approaches and alternative models of licencing and copyright enforcement are opposed by international actors (international federations, intergovernmental organizations), which take active part in shaping the strategies of national actors.

Artificial Intelligence and cultural industries

As [Octavio Kulesz pointed out](#), Artificial Intelligence (AI) is an “extremely powerful tool” and presents “huge advantages for artists, the cultural industries and the public”. It could empower several creators, making cultural industries more efficient and increasing the number of artworks. For instance, experimentation with [machine learning](#) is currently on the increase and reveals the potential offered by this modality in the fields of music, film and literature. For instance, the movie “[Sunspring](#)” released in 2016 was entirely written by AI technology; in 2016, IBM and Jason Grech launched a [couture collection](#) using AI technology; in 2018, the musician Benoît Carré released the first music album Hello World, composed by an artist with AI (the Flow Machines System), showing that AI can be used to create [“fresh musical material”](#).

In a similar vein, large platforms are already investing in projects to create cultural expressions using algorithms on a large scale. AI can also reduce costs in terms of film production or of publishing and increase efficiency. Besides, AI makes possible for more people to compose symphonies or write novels – even without specific expertise and knowledge in any of art forms. In a general way, a tremendous explosion of artworks could take place in the next few years, since “[AI technologies](#) are easily scalable”.

Yet, there are still very few artists and entrepreneurs that are able to use tools such as machine learning. Insofar as the domain of AI is strongly [dominated](#) by very few actors, such as the US companies (Google, Apple, Facebook, Amazon, IBM) and some companies from China (Baidu, Alibaba, Tencent), there is a risk of establishing a new technological and creative divide and of resulting in the decline of developing countries. Currently, India is perhaps the only country in the Global South that has announced an explicit AI agenda. Countries that do not invest in AI or do not have their own strategy will simply end up using the services provided by large global companies.

3. Ideas and recommendations for the future

Based on a synthesis of the policy documents mentioned above, the challenges and opportunities previously analysed, as well as on the [road map](#) for the implementation of operational guidelines for updating the 2005 Convention on diversity of cultural



expressions in the digital age, the following five key ideas and related recommendations could be a main basis for discussions:

1. Ensure the digital environment promotes cultural offer and access to cultural goods and services that is both globalised and diverse

Recommendations:

Conduct overall mapping of the digital cultural sectors;

Promote the development of conducive policy frameworks, technological infrastructures and the deployment of telecommunications networks with a view to reduce the digital divide;

Improve public access to data about online platforms and ensure investment by government and public agencies to generate their own data to be able to determine targeted approaches and support to groups that have limited or no access to digital tools;

Promote new type of relationships between public sector, private companies and civil society, based on interactivity, collaboration and co-construction of policy frameworks;

Establish national multi-sectorial and inter-ministerial teams of government officials, private sector and civil society organisations (including women and youth organizations) in order to deal with digital divide;

Encourage measures (e.g. creation of algorithms; broadcasting quota of national/local content; etc) that ensure a greater diversity of cultural expressions and visibility and discoverability of local cultural content in the digital environment;

Ensure that large online platforms contribute to the sustainability of cultural ecosystems, through data sharing and contribution to production and distribution of local cultural content.

2. Support digital creativity, viable enterprises and sustainable markets and ensure a diverse digital ecosystem

Recommendations:

Support the digitization and incorporation of technological tools, including artificial intelligence, into cultural industries' production processes, in particular among civil society organizations, micro, small and medium-sized enterprises and incubators;



- Promote new forms of financing for cultural industries in the digital environment and encourage new types of partnerships between public and private sectors in the digital environment;
- Promote dialogue between private operators and public authorities in order to encourage greater transparency in the collection and use of data that generates algorithms;
- Create mappings of Artificial Intelligence projects in the national territory, especially those focusing on culture and the arts;
- Foster a national and/or regional high-level debate – governments, private sectors, international organizations, civil society, experts – on the way in which online platforms affect digital creativity and sustainability of cultural markets and can maximise the visibility of national/local cultural content within the digital environment;
- Encourage the emergence of economically viable local online platforms and prevent the formation of monopolies or oligopolies in the field of digitised cultural content.

3. Recognize and value the work of creators in the digital environment

Recommendations:

- Promote fair and equitable remuneration for creators through legislative measures;
- Ensure transparency in the distribution of income between digital distributors, Internet service providers and right holders;
- Improve the collective bargaining position of creators for the digital rights of their works and promote dialogue between online content sharing service providers and right holders;
- Guarantee better traceability of royalty payments to copyright holders resulting from online use of their works;
- Develop the legal framework for online distribution of cultural goods and services such as ratification of relevant international copyright and related rights treaties to protect against piracy of cultural goods online;
- Raise awareness among the public regarding the importance of copyright and respect for intellectual property laws related to original digital cultural content as a means to ensure fair remuneration and recognition of artists;;
- Design and implement policies to empower youth and women and ensure equal opportunities to work in the digital cultural sectors;
- Encourage debate on copyright in the Artificial Intelligence era, in order to ensure fair remuneration and adequate recognition of artists.



4. Promote international agreements in order to ensure balanced flow of digitised cultural goods and services and equity between countries in the digital environment

Recommendations:

Promote transparency in bilateral and multilateral negotiations having an impact on production and distribution of cultural goods and services in the digital environment;

Introduce cultural clauses in international agreements, that take into account the dual nature of cultural goods and services in the digital environment, with particular attention to the status of e-commerce that shall recognize specificity of cultural goods and services;

Promote exchanges of digitised cultural goods and services through co-production and co-distribution agreements and in policies of regional organisations;

Offer preferential treatment for digitised cultural goods and services from developing countries through multilateral and bilateral trade and investment agreements;

Incorporate explicit references to the 2005 Convention Operational Guidelines on the digital environment in trade and investment agreements;

Update cultural cooperation agreements so that they take into account the impact of digital technologies, specifically in the implementation of co-production and co-distribution agreements;

Conduct overall mapping of multilateral funds supporting digital production and distribution of cultural content;

Strengthen collaboration between international institutions (UNESCO, UNCTAD, United Nations Development Program, World Intellectual Property Organization, International Labour Organization, etc) to deal with the challenge of imbalanced flow of digitised cultural goods and services, with the economic and social conditions of artists and creators in the digital environment, as well as with public access to global big data.

5. Reinforce digital literacy, skills and competences in a digital environment

Recommendations:

Audit and identify specific digital skill gaps in the ongoing changes to the cultural value chain;

Develop or support professional training courses and programs in order to strengthen the skills of creative talents, entrepreneurs on both the level of using digital tools, including artificial intelligence, and the level of managing cultural and artistic projects;



Encourage digital literacy through educational programs favouring the use and mastery of digital technologies and ensure availability of digital equipment;

Promote cooperation among artists, educational and cultural professionals working in the cultural industries, with actors in the digital environment, including designers, programmers, engineers and scientists;

Provide support to cultural institutions to become learning spaces for the public to acquire digital literacy skills and competences;

Please see examples of good practice: [Road map](#)

(https://en.unesco.org/creativity/sites/creativity/files/12igc_9_roadmap_og_digital_en.pdf
) pages 7-11



Annex – List of policy documents

- The 2018 [UNCTAD outlook](#) “Trends in international trade in creative industries 2002-2015” focuses on the impact of digital technologies on trade of creative goods and services.
- The UNESCO Global Report series on cultural policies provide new evidence to inform how cultural policy-making contributes to attain the UN 2030 Sustainable Development Goals and Targets. The [2015](#) and [2018](#) reports deal – among others - with the challenges of cultural policy-making in the digital age and how Parties to the 2005 Convention could strengthen the creative ecosystem in the changing technological environment.
- The [report](#) of Octavio Kulesz entitled “Culture, platforms and machines: the impact of Artificial Intelligence on the diversity of cultural expressions” (2018).
- [Study](#) on economic and artistic challenges and benefits of online diffusion and distribution of ACP (African, Caribbean, Pacific) cultural content, conducted by D. Tchhouali (2016).
- In 2015, the RIJDEC (Réseau international de juristes pour la diversité des expressions culturelles) produced a [report](#) focusing on “The renewal of the cultural exception in the digital era”. The report deals with monitoring the evolution of regional and bilateral trade agreements and their effects on the treatment of digitised cultural goods and services.
- In 2015, the expert O. Kulesz drew up a [study](#) about the impact of digital technologies on the diversity of cultural expressions in Spain and Hispanic America. The study was released by the UNESCO Secretariat and supported by Spain.
- In 2015, the Centre d’études sur l’intégration et la mondialisation (Université du Québec à Montréal) drew up a [report](#) analysing the challenges that Parties to the 2005 Convention on diversity of cultural expressions face in the digital era.
- In 2015, the researchers Hye-Kyung Lee (King’s College London) and Lorrain Lim (Birkbeck College) prepared a [report](#) on challenges and opportunities for the diversity of cultural expressions in the digital era in East Asia.
- In 2013 the international scientific association Unión Latina de Economía Política de la Información, la Comunicación y la Cultura - ULEPICC published a “[Statement](#) about the protection and promotion of cultural diversity in the digital era”.

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