

# Impact of Digital Technologies on Development of Creative Industries

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**Abstract.** The aim of the paper is to analyze the impact of information technology on the development of creative industry in general, as well as during the Covid-19 pandemic. Finally, the Latvian Colleges of Culture project for the promotion of the competitiveness of the creative sector in the digital age will be described.

**Keywords:** Creative Industries, Information Technologies, Education, Digitalization, Covid-19

## 1 Introduction

Advances in information and communication technologies have brought changes in all areas of human activity, from day-to-day communication to business models, international policy planning documents and strategies.

Many studies and reports on the importance of technological change have been published on a global scale. Research shows that technologies change how people, organisations and governments live, interact and work. Digital technology continues to be one of the major forces shaping our society today (Bandopadhyay & Wong, 2019). It transforms economies and societies. Information and communication technologies are also progressively engaging humanities and social sciences, for example, history, archaeology, law, and politics (Schiuma & Carlucci, 2018).

Advances of information technologies involve both challenges and opportunities for organisations to keep up with the changes. Ability of companies to accept change and adapt to it affects the competitiveness of countries and regions in the global market in the so-called digital era. This was illustrated very well by the situation following the Covid-19 pandemic. A state of emergency has been declared in many parts of the world. The borders were closed. Direct contact was restricted, institutions were closed and public events were banned. The ability of the cultural and creative industries to survive in unexpected conditions, as well as the chances of recovering from them, were largely related to the availability of digital infrastructure, the degree of its implementation in organizations and the digital literacy of the representatives of industry.

## **2 Application of Information Technologies in Creative Industries**

Digitisation and advanced technologies have an important impact on the creative industries. They have affected the external business environment at different levels, making it necessary to make changes to the internal environment of companies and organisations. Technologies are influencing all areas of organisations' operations, including financial management, customer relationship management, marketing and communications (Bandopadhyay & Wong, 2019).

Analysis of creative sectors shows that a large part of companies integrate technology into their activities, but their application levels and quality differ. Studies show that an increasing number of consumers have access to more creative content at lower costs, as content creators benefit from reduced production and distribution costs which have lowered barriers to entry and deliver content on a wider range of devices. The direct link with consumers has facilitated an increasingly competitive environment that has led to the development of new business models in most of creative industries. It is transforming working processes and operations, such as audience development, ticketing and communication. The digital environment has enabled new development opportunities, for example in data-driven marketing or live streaming, and has offered new perspectives of creation with works specifically curated for the online environment, as well as new revenue streams (Tepper, 2016).

As concluded by the Organisation for Economic Co-operation and Development (OECD), digital technologies allow firms to access multiple geographical and product markets almost instantaneously, sharing ideas and exploiting increasing returns to scale. They are generally associated with lower costs of operations and of entry into a market, even across borders, thus potentially increasing competition among firms for the market itself. Due to sustained technological progress, information technology products have become much cheaper and more powerful over time (OECD, 2019). Development of information technologies has made it possible to use different platforms, programmes, technologies and improve the functioning of organisations in different sizes and financial capabilities.

The study that examined the impact of the internet and digitalization on the creative sector in Europe suggests that despite the fact that digitalization has brought some challenges for the creative sector, the creative industries have succeeded in adapting to the new digital reality and have returned to growth. Research shows, advance of new technologies has brought the following main benefits:

- a) increase of revenue and employment;
- b) reduced production and distribution costs;
- c) development of new business models;
- d) more options and increased choice of content and services (Oliver & Ohlbaum, 2017).

### **3 The Role of Digitization of Creative Industries during the Covid-19 Pandemic**

The aim of the section is to analyse how information technology has helped to overcome the effects of the Covid-19 pandemic in creative industries and the cultural sector. Firstly, examples of digital solutions and projects that were implemented to ensure the access of culture will be described. Secondly, it will be shown how digital supply has affected cultural consumption and consumer online activities.

The negative social, economic and political impact of the Covid-19 on the cultural sector is seen worldwide. Resolving the negative effects of a pandemic is closely related to the degree of implementation of information technologies at the international, national and organizational level. During the first weeks of the pandemic, policy measures specifically related to the promotion of digitization have been announced or enacted. A special role has been given to those digitization activities that promote online access to culture from virtual visits to museums and galleries, streaming of films to community choirs via social media. Although the spread of the virus was unexpected and rapid, the industry adapted quickly, and the pandemic has prompted an unprecedented acceleration in the digitization of culture and access to culture online, often without much prior preparation (UNESCO (2), 2020). According to art critic Lindenbauma, currently publishing all digitally convertible content may be the only way to communicate with an otherwise unreachable audience. There have never been and probably never will be so many opportunities to watch movies or theatre performances for free (Lindenbauma, 2020). The state of the creative industries and the cultural sector in a pre-crisis situation and activities during the pandemic led regional intergovernmental organizations to agree on the need to enhance the range of digital content on offer and to a wider audience. This position is also supported by the OECD, which concluded that this crisis will prompt structural changes, including for digitization and even urban planning (UNESCO (3), 2020)

Many communities around the world have found digital solutions to share intangible cultural heritage in accordance with social distancing measures (UNESCO (4), 2020). The following are some examples of the geographical and thematic diversity of activities. In Egypt, the Ministry of Culture received digital training to support online management of culture. In China, the Ministry of Culture created a digital platform and smartphone application dedicated to virtual visits of museums. In Argentina, the Ministry of Culture commissioned 500 artists to production of digital artworks. Italy launched a web portal and YouTube channel posting exclusive content (UNESCO (1), 2020). In Lebanon, the Ministry of Culture has made virtual tours of its World Heritage sites and museums available (UNESCO (3), 2020). In Senegal, the Museum of Black Civilizations is filming guided tours of all the exhibitions to be broadcast on television and online (UNESCO (4), 2020).

Digital technologies make it possible to find innovative solutions to the problems caused by the Covid-19 pandemic. Various online competitions were organized in different parts of the world. In the United Arab Emirates, the Dubai Culture & Arts Authority and the Art Dubai Group have launched an “Idea-thon” — an online hub calling for ideas on how to stimulate the creative industries (UNESCO (2), 2020). In Latvia,

the first virtual hackathon HackForce was organized in the beginning of March. It was aimed at finding solutions to the crisis caused by coronavirus (Labs of Latvia, 2020). Another international online hackathon was organized, in order to build new solutions and projects for unprecedented challenges in creative industries caused by Covid-19 (Culture and Creative Industries Online Hackathon, 2020).

#### **4 Cultural Sector and Digitization in Latvia during the Covid-19 Pandemic**

As mentioned above, the degree of digitization of the cultural industry, organizations or the readiness to digitize their products and services during the Covid-19 pandemic was one of the decisive factors in overcoming the crisis.

The aim of the section is to analyse the digital activities of the representatives of Latvia's creative industries and cultural industry during an emergency situation.

During the Covid-19 pandemic, cultural organizations and representatives have two main tasks:

- a) maintain a link with its consumer, audience;
- b) resolve the issue of profit and commercialization at a time when the usual provision of services, products is not possible.

The strategies used by various organizations to achieve the above mentioned goals are different. Some of them changed or diversified it over time. By analysing the information provided by the organizations and representatives of the sector, three main trends can be observed:

- a) offering free content;
- b) offering paid content;
- c) offering both paid and free content.

Analysing the digital activities of representatives of cultural and creative industries during the Covid-19 pandemic, it can be concluded that digital activities have become more diverse than before the pandemic. Analysing the representatives of the Latvian sector, it is possible to distinguish four goals of digital activities:

- a) social;
- b) communicative;
- c) identity building;
- d) commercial.

Like any classification of this kind, it is theoretical, and in practice there are situations where goals and activities converge. The examples below will not be a complete representation of all events and processes, but a description of the main processes by providing illustrative examples.

##### **Social**

In view of the fact that prevalence of Covid-19 is associated with the closeness of people-to-people contacts, international practice in limiting the spread of the virus was to

limit human exposure, including limiting or prohibiting gathering and movement opportunities. Despite the fact that the cultural and creative sector is one of the most affected by the restrictions, since a large part of cultural products and services consumption practices are based on an experience on the spot, cultural and creative players responded quickly to the situation and sought solutions. Industry representatives provided the opportunity to use their products remotely, at home.

In Latvia, the state of emergency came into force on March 14. In the first days after the announcement of the state of emergency, Latvian artists published their already digitized products free of charge — films, concerts, shows, publications, etc. In this way, the cultural sector contributed to limiting the spread of the virus and encouraging people to stay at home. This is to be classified as a social objective, since it aims to benefit society without benefiting from the commercial benefits of its individuals.

The following examples illustrate this aspect of digital activities. The purpose of inserting quotes is to more accurately illustrate the correspondence of events to the chosen goal of digital activity with the help of the message and language expressed in them.

The regional concert hall “Cēsis” offered to watch their concert remotely. The publicity text of the event was as follows: “At a time when all things have changed, and people have been given the opportunity to strengthen spirit and draw on the healing power of music by enjoying it in the presence of outstanding artists, the Concert Hall “Cēsis” invites you to visit it virtually” (Laikmeta piezīmes klavierēm, 2020).

Technology and entertainment company Tet called on the people to be responsible and exclude direct contact with others as much as possible and to stay at home, thereby reducing the possibilities for the spread of the disease. They wrote: “To support families and help find activities when educational institutions are closed and a large number of parents choose not to take their children to kindergarten, Tet is giving a free Children's Theme Pack and a specially adapted and safe Children's Corner to all its Helio interactive television customers” (TET, 2020). Representatives of the film industry also offered the opportunity to watch their works at home free of charge. “While a state of emergency has been declared in the country to limit the spread of the Covid-19 and cultural life in Latvia and throughout Europe has stopped, Deep Sea Studios and film director Matīss Kaža offer an Internet user the opportunity to watch three studio films anywhere in the world free of charge” (Satori, 2020).

The above mentioned examples illustrate the industry's willingness to support the society by offering a meaningful leisure at home.

### **Communicative**

The artist needs a contact with its audience. At a time when face-to-face communication is limited or stalled, virtual communication using, for example, various digital platforms, social networks is the easiest form of communication.

Latvian cultural institutions were united by the slogan “Tiksimies drīz / #tiksimiesdriz” (let's meet soon), which was used as a hashtag on social networks, as well as used in the form of posters at the institutions during the state of emergency.

Different types of initiatives can be distinguished.

### **Temporary Publication of Past, Realized and Digitized Works of Art**

This strategy was mainly observed for institutions with long, stable traditions, such as state theatres.

The state of emergency in Latvia began on March 14. The next day, March 15, the following entry appeared on the social network page of the Latvian National Theatre entry “If you are not allowed to go to the theatre, the theatre will come to visit you. In the coming weeks, we will try to deliver theatre and theatrical stories at home in a virtual and compliant way” (Latvian National Theater, 2020).

A week after the state of emergency, Daile Theatre also launched a similar initiative, informing about it in its social network “Let the theatre into your home! While the # break lasts in Daile Theatre, we invite you to let the theatre into your home and enjoy our digital repertoire with older Daile Theatre productions, which can no longer be seen live” (Dailes teatris, 2020). The Latvian National Opera and Ballet also joined the initiative to publish performances, offering to watch one of the performances on weekends (The Latvian National Opera, 2020).

### **New Works, Projects Created during the Covid-19 Pandemic**

Not only previously digitized works were offered for remote cultural consumption, but new ones were also created during the state of emergency. Choreographer and dancer Dagmara Barbele surprised social media audiences with a unique dance work "Dancing in the sign of Sun". It is a work where she danced and recorded a composition, which should be performed by a whole dance group. Barbele writes: “At a time when we are not allowed to meet and dance together, I found a way to create a dance. It can be danced by one, but the real magic it experiences only when there are more than one.. This video has become a tribute to everyone who feels similar. It is a tribute to the many thousands of dancers who lack their dance teachers, partners and dance friends.” (Barbele, 2020).

Musician and composer Kārlis Auzāns published a minute-long musical improvisations daily on a social network. On March 16, he wrote on his Facebook page “Today I’m starting “Little Raga Sessions” – 1 minute improvisation every day on different instrument. #stayhome #covid\_19 #littleraga #mazārāga” (Auzans, 2020).

The New Riga Theatre (JRT) started the project “JRT lasa” (JRT reads) the day after the beginning of the state of emergency, during which the actors read works of their choice from their homes (The New Riga Theater, 2020) .

The Latvian National Theatre created digital audiobook shelf (Latvian National Theatre, 2020) and a programme “7 Ravens and the Saulcerite”. The programme is based on seven questions from seven ravens — seven actors of the National Theatre. Aim of the programmes was to stay in touch and exchange information while people are forced to be at home. The broadcast was created remotely on the Google Hangouts platform (Latvian National Theatre, 2020).

The national media sought and created solutions to promote the availability of culture during social distancing. Latvian Television created a live studio “Koncerts Z studija” (Concert in Z studio), from which live concerts were broadcast once a week

during the state of emergency and a few weeks after it (Rīta panorāma, 2020). To support musicians and composers during the Covid-19 pandemic, radio “Klasika” launched a series of live concerts in the studio. According to the rules dictated by the emergency, the concerts took place without the presence of the public, the concerts were broadcast on the radio and viewed on social media (LR3. Klasika, 2020).

### **Identity Building**

The time of the pandemic coincided with several festivals and celebrations in Latvia. A festival is a time of gathering and gaining a common cultural experience. Participation in coordinated celebrations is part of the activities of building a collective identity and proving one's belonging. During the pandemic, the opportunities to develop face-to-face experiences and gain direct emotions were limited. However, it is positive that part of the activities that have already become a tradition were not cancelled but transferred to the digital environment. As various organizers concluded after their events, the new experience also provided valuable ideas to be continued in the coming years.

On May 4, several events took place related to the celebration of the restoration of Latvia's independence. On 4 May 1990, Latvia proclaimed its independence from the USSR and restoration of the Republic of Latvia. Four years ago, in honour of this event a new tradition “People of Latvia. Honour. Gowns” was launched in Latvia. This is a parade that calls for the participation of any interested person who owns a folk gown. This year, due to restrictions, the march was moved to the virtual environment. The introduction of the new format also had some advantages, such as the involvement of wider audience. For the first time, artistic groups were also widely represented, including choirs, dance groups, folklore and folk music ensembles, applied art studios. Monta Grasmāne, head of the National Arts Centre, commented: “It seems unthinkable that extreme conditions can bring something positive! But so it is — each crisis is an opportunity.” The digital format also allowed to provide an opportunity for Latvians from the diaspora to participate. Participants from Lithuania, Estonia, Finland, Norway, the United Kingdom, Belgium, France, Switzerland, Germany, the Czech Republic, Australia, New Zealand, the United States, Canada and elsewhere were represented (eng.lsm.lv, 2020).

Another event, that celebrates the reinstitution of the independence of Latvia in 1990, is the Latvian Film Marathon. Traditionally it takes place at a cinema in Riga / Splendid Palace, but due to the Covid-19 crisis, this year it was held online on the platform *filmas.lv*. On 4 May 2020 it drew 8,600 viewers in 63 countries. The organizers of this project also emphasize the valuable experience acquired during the online Latvian Film Marathon and admit that it will be useful for organization of future online events (eng.lsm.lv, 2020).

The time from May to August is traditionally a time of the city's festivities. Those cities that celebrated during the state of emergency had to look for alternative, digital ways of organizing the festival in order to preserve the tradition. In 2020, the city of Jelgava celebrates its 755th anniversary. Festive procession was planned as one of the

central events. Because of restrictions it was reorganised in remote format, where everyone was invited to participate in the digital symbolic Jelgava city flag relay (Jelgava city council Public relations department, 2020).

Various educational activities organized by state and municipal cultural institutions during the pandemic should also be included in this category, as education and awareness of cultural heritage is one of the conditions forming identity. Digital solutions were used to achieve this goal. One of the most common formats was online games or quizzes. In April and May, the Latvian National Opera and Ballet organized a competition on the history of the Latvian Opera House on the social network Facebook (The Latvian National Opera, 2020). A series of video lectures on the history of opera was also published in May (The Latvian National Opera, 2020). For a month, the museum "Jasmuiza" dedicated to the writer Rainis (1865-1929) organized a competition to present ceramics made in the cultural and historical region of Latgale (Museum "Jasmuiza", 2020).

The Ministry of Culture of the Republic of Latvia has created a section "e-culture" on the website, which summarizes the currently available digital resources and services in the cultural sector (Ministry of Culture, 2020).

### **Commercial**

Analysing the actions of cultural organizations during a state of emergency, it can be concluded that some initially offered their products free of charge but realizing that the state of emergency in Latvia would be prolonged, profit-making solutions were considered.

On May 28, the National Theatre announced the opening of a new platform "The White Club". An online conversation with the creative team is also planned on the Zoom platform to keep in touch with the viewer. This project, which is the result of exceptional circumstances, it is planned to continue. "E-theatre is a new form of theatre that allows the theatre not only to work in the context of a protracted emergency but could continue to exist when the theatre's work returns to normal" (Latvian National Theater, 2020).

Gertrudes Street Theatre redesigned the live performance "Birthday of Taņa" online on the Zoom platform, offering a "live" theatre experience every time, even in exceptional circumstances (GIT, 2020).

Concert Hall "Lielais dzintars", starting from Easter, offered paid online concerts. At first they took place in an empty concert hall, later with the maximum number of listeners allowed. The situation is described by the chairman of the board of the concert hall Timurs Tomsons: "Now we are all experiencing an unusual time. Culture has always been with people - music has been heard even in the darkest parts of history, and concert activities were not stopped even during the war. (...) For almost five years the listeners have come to us to the concert hall to the listeners" (Great Amber, 2020).

Online products for children were also created, such as the show "Vol.1 ANTIŅŠ". The authors of the show have chosen children as the target audience because they see that the cultural offer for children has stopped completely, in contrast to the adult audience, which is offered both a wide range of event recordings and online performances.

“We want to give parents 40 minutes of rest and offer children the opportunity to spend this time creatively with actors, both by meeting virtually other peers and having meaningful conversations with them” (PERFORracija, 2020).

## 5 Project for Development of Digital Literacy

The situations and conclusions mentioned in the previous chapters allow us to conclude that the development of creative industries and the future of the cultural sector is largely related to the readiness of their representatives to integrate information technologies into their work. Taking into account the situation mentioned above, the Latvian College of Culture (LCC) has developed and started to implement a project to analyse the experience of Latvian creative industries in the introduction of information technologies, promote entrepreneurial information technology literacy and increase the skills of the workforce. The analysis takes into account the global context and local specificities.

At the beginning of the project, by analysing the business environment in Latvia and conducting interviews with entrepreneurs, employers informed about the lack of qualified employees in data analysis and visualization. Considering the LCC field of expertise and the experience in design and entrepreneurship education, a programme of data analysis basics and data visualization training was developed.

In the course of the project, it was concluded that companies experienced wider problems related to workforce qualifications. It showed not only a lack of knowledge and skills in data analysis and visualization, but also a lack of competence in business analysis technologies for existing and as well as potential employees. This is a global trend which is also confirmed by international workforce studies in different industries, including in the creative industry examined in this project. The project was therefore extended with an analysis of the skillset of business analysis technologies in the labour market.

From the above information, the following project aims and objectives were developed.

The project **aim** is to address labour skills problems related to the development of business information technologies (especially data analysis technologies) in the creative industry by developing different types of training programmes and raising public awareness of the importance of digital literacy in industry. The achievement of the aim is planned by analysing international and national employment and competence studies, documents, as well as the current situation in Latvian creative industry companies and organisations.

LCC has set the following project **objectives**:

1. Analyse international and national research and documents on the development and challenges of creative entrepreneurship in the era of data economics and information technologies;
2. Examine knowledge, skills and competences that are currently needed and are expected to be needed in the future related to the development of information communication technologies and business analysis;

3. Analyse current practice and challenges in creative industry regarding the workforce competences and upskilling with the digital literacy:
  - 3.1. Survey representatives of creative industries,
  - 3.2. Interview representatives of creative industries,
  - 3.3. Analyse knowledge, skills and competences mentioned in Latvian job advertisements;
4. Develop internationally competitive training and professional development programmes;
5. Provide recommendations on how to improve the external and internal business environment for the promotion of business competitiveness and upskilling workforce (with digital literacy);
6. Promote experience-exchange activities of industry representatives regarding workforce upskilling activities.

LCC has set the following project **outcomes**:

1. A study on international and national trends of the impact of development of information communication technologies on the workforce skillset;
2. A study on skillset challenges of creative industries workforce regarding digital literacy;
3. A curriculum for internationally competitive training and professional development programmes in the field of digital literacy and business analysis;
4. Recommendations for improvement of both internal and external business environment for better competitiveness;
5. Implemented activities for exchange of experience regarding workforce upskilling activities.

Within the framework of the project, a comprehensive analysis of the creative industry is planned. In order to ensure the representativeness of the data, different types of companies and organizations will be surveyed and analysed. The following criteria will be covered in the selection of companies and organizations:

1. Sector (private, public, NGO);
2. Business form;
3. Size of organisation (large, medium, small);
4. Region (Riga, cities, districts/provinces)

## 6 Conclusions

The gradual development of information technologies has brought changes in people's communication, daily organization, world perception, business models and development opportunities of companies and organizations. The sudden pandemic of Covid-19 and the subsequent restrictions gave the impression that the cultural and creative industries sector activity stopped, that cultural activities were not taking place and that a sharp decline or crisis was expected. However, by exploring the possibilities offered by technology, industry professionals create solutions not only to offer the audience the opportunity to consume already digitized products, but also to develop new remote consumption products and services. Of course, these first extraordinary ideas and projects

cannot replace the feelings of the audience and the artist created by the live effect of the event, and in most cases do not provide the level of income necessary for the successful development of the industry. However, the ongoing processes show that the industry still has a future, and that commercial projects for remote cultural consumption need to be further developed. However, the ongoing processes show that the industry still has a future, and that commercial projects for remote cultural consumption need to be further developed. In turn, the task of policy makers is to promote favourable conditions for such business and governance models, as well as to promote the availability of infrastructure in regions where access to digital infrastructure is still lacking.

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