UNESCO | ICCSD

United Nations
Educational, Scientific and
Cultural Organization

International Center for Creativity
and Sustainable Development
under the auspices of UNESCO

联合国教科文组织 | 国际创意与可持续发展中心

专题简讯
NEWSLETTER

数字经济赋能创意产业国际研讨会

Seminar on How the Digital Economy Advances Creative Industries

CREATIVITY

创意 2030

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International Center for Creativity and Sustainable Development
under the auspices of UNESCO (Category 2)

创意 2030
数字经济赋能创意产业国际研讨会
CREATIVITY 2030 SEMINAR
How the Digital Economy Advances Creative Industries

"数字经济"一词是指以数字计算技术为基础的经济，其中包含通过互联网等数字和移动工具进行的商业和交易，互联网经济涉及数十亿次人与人、企业、设备、数据和流程之间的互动。这种连通性提高了经济生产力。创意者的作品、创意产业以及各类创意产品和创意行为，都是创意经济的重要组成部分。随着创意经济依托于数字技术发展，创意经济业已成为数字经济的重要组成部分。

新冠肺炎疫情席卷全球以来，众多文化场馆不同程度地关停，以防止疫情扩散。因此，所有以人群聚集为基础的文化活动都受到很大的限制。在这种环境下，数字技术和数字基础设施为文化作品和表演的呈现、分享和体验发挥了重要作用。这表明，在受疫情影响的全球经济中，数字技术对创意经济的支柱作用至关重要，并且随着创意经济的发展还将发挥更大的作用。

由于数字技术的发展，文化创作和文化生产已经从线下活动，转为线上活动，从而产生了新的文化表现形式和消费形式。数字化趋势自几年前便已初露端倪，而疫情则加速了这一趋势。展览、拍卖、音乐表演、戏剧演出、舞蹈、旅游、文化遗产、会议和更多的创意交流都转移到了数字云端，实现了即时访问、全球共享和云教育。这种重要的发展趋势体现了文化产业和数字经济的关联性。

在后疫情时代，数字技术可逐步协助实现传统、当代和新型文化产业的升级，以及创意新内容的多样化。网络展览、网络演出、网络会议已经成为"新常态"。新型数字技术的影响以及它们给创意产业、未来的工作和整体经济带来的变化是无法想象的。

4 月 29 日，由联合国教科文组织国际创意与可持续发展中心（以下简称创意中心）主办的"创意 2030——数字经济赋能创意产业国际研讨会"在北京市设计之都大厦举行。研讨会采用线上线下相结合的方式举办，旨在通过分析疫情中后期数字技术对文化创意产业的提升案例，探讨新型数字文创产业在未来社会活动、经济生产、文化交流中所扮演的角色，并以此为契机，厘清数字经济时代大背景下，文创产业的机遇与走向。

The term "digital economy" refers to an economy that is based on digital computing technologies. It implies that business and transactions are conducted through digital and mobile tools, like the internet, involving billions of interactions among people, businesses, devices, data, and processes. This interconnectedness enhances the productivity of the economy. The works of creative individuals, creative industries and all types of creative products and performances are part and parcel of the creative economy which – if digitally underpinned - has become an important part of the digital economy.

Since COVID-19 has swept the world, many cultural venues have been closed, to varying degrees, in an effort to prevent the spread of the pandemic. As a result, all types of cultural activities involving the gathering of people have been subject to considerable restrictions. In this environment, digital technologies and digital infrastructure have played an important role to uphold the presentation, sharing and enjoyment of cultural works and performances. This underlines the crucial and indeed growing role of the digital support to the creative economy in the pandemic-afflicted global economy.

Cultural creations and products have shifted thanks to digital technologies from real life events, offline so to speak, to online events, resulting in new forms of cultural presentations and consumption. While this trend has been in the works since several years, the pandemic has accelerated it. Exhibitions, auctions, music performances, theatre presentations, dance, tourism, cultural heritage, conferences and many more creative exchanges have all migrated to the digital cloud world, allowing instantaneous access, global sharing and education. This development is a critical feature in the relationship between cultural industries and the digital economy.

In the post-pandemic era, digital technologies may progressively help to upgrade and diversify traditional, contemporary and new types of cultural industries and creation. Online exhibitions, online performances and online conferences have become the "new normal". The impact of new types of digital technologies and the change they bring to the creative sector, to future jobs and to the economy as a whole can only imagined.

On April 29, Plaza of Design, Beijing witnessed CREATIVITY 2030 SEMINAR "How the Digital Economy Advances Creative Industries" hosted by International Center for Creativity and Sustainable Development under the auspices of UNESCO (ICCSD). The seminar was accessible both online and offline. It was intended to analyze the cases of how digital technology promotes the cultural and creative industries during and after the pandemic, explore the role of the new digital cultural industries in the future social activities, economic production and cultural exchanges, as well as discover the opportunities and trends for the growth of such industries in the context of the digital economy.

主持人 / Hosts

汉斯·道维勒　Hans d'Orville
创意中心咨询委员会主席；联合国教科文组织前战略规划助理总干事
Chairman of ICCSD Advisory Committee, Former Assistant Director-General for Strategic Planning, UNESCO

肖澜　Xiao Lan
创意中心执行主任
Executive Director of ICCSD

特邀嘉宾 / Special Participant

夏泽翰　Shahbaz Khan
联合国教科文组织驻华代表处代表
Director of UNESCO Beijing Cluster Office

嘉宾 / Participants

梅里·马达沙希　Mehri Madarshahi
创意中心咨询委员；华南理工大学客座教授；联合国前高级经济官员
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Senior Researcher of Tencent Social Research Center (TSRC)

创意中心执行主任肖澜出席会议并致辞，创意中心咨询委员会主席、联合国教科文组织前战略规划助理总干事汉斯·道维勒主持会议。会议特邀联合国教科文组织驻华代表处代表夏泽翰教授出席并发言。来自国内外的 7 位嘉宾共同参加了本次国际研讨会，并围绕"创意产业在数字经济中的角色"、"数字技术和数字经济对创意产业带来影响"两个议题进行了分享和交流。

Xiao Lan, Executive Director of ICCSD was present and delivered a speech. Hans d'Orville, Chairman of ICCSD Advisory Committee and Former Assistant Director-General for Strategic Planning, UNESCO, hosted the seminar. The special participant Professor Shahbaz Khan, Director of UNESCO Beijing Cluster Office, attended the seminar and shared his views. 7 Chinese and foreign guests participated in the international seminar and exchanged their ideas on the two topics, namely "The Role of Creative Industries in the Digital Economy" and "How the Digital Economy and Technology Advances Creative Industries".

▲ 线上嘉宾

▲ 现场嘉宾

专家观点
Experts Views

创意经济已成为联合国教科文组织重点关注的工作目标之一

特邀嘉宾 /Special Participant
夏泽翰（Shahbaz Khan）
联合国教科文组织驻华代表处代表
Director of UNESCO Beijing Cluster Office

夏泽翰教授表示，联合国将 2021 年设为"创意经济促进可持续发展国际年"，联合国教科文组织也发起主题活动，强调和扩大文化对全球经济和可持续发展的贡献。他认为，虽然疫情对全球文化产业造成了严重的影响，但却进一步加速了文化内容的数字化进程。从 2015 年到 2016 年，音乐产业的数字化销售额一年内仅增长 16%。互联网技术也让公众能更好地接触和领略不同的文化，从而更好地刺激创新和新作品的产生，并为艺术家和创作者提供新的报酬方式。"我们必须让信息技术成为创意行业的重要支撑，成为我们劳动力的一部分。"他还提出，数字经济跟创意经济都非常的重要，人类必须要有更大的格局，现在中国发挥了非常重要的作用，提出了"一带一路"倡议，这对所有的人都有帮助。最后，他表示，创意中心无疑是可持续发展世界中非常重要的一部分，期待今后双方建立更加紧密的合作关系。

"数字经济赋能创意产业"是一个很好的主题，借由此次研讨，促使我们通过创新去加速可持续发展目标的实现。作为联合国教科文组织驻华代表处代表，我将从联合国教科文组织的角度，简述以下几点内容。非常期待未来与创意中心及中心智库的密切合作。

创意经济已成为联合国教科文组织重点关注的工作目标之一。目前，创意经济是全球经济增长最快的行业之一，占全球 GDP 的 3%。另外，创意经济的价值体现在它的双重性，一是其物化的创意表现方式（比如电影，绘画，书籍等），以及在非物质方面的创意表达（比如舞蹈，音乐，表演等）。

创意经济的核心是文化创意产业（CCIs），该产业属于艺术、文化、商业和科技的交汇领域。文化创意产业每年创收 22500 亿美元，并在全球雇佣了 3000 多万人，为 18 岁到 25 岁的年轻人提供了大量工作机会。这不仅是属于当今时代的一个行业，也是拥有未来的一个行业。

创造力越加被认为是一种以人为中心的，可持续的发展的一种资源。它是可再生的、无所不在的。因此，对于联合国可持续发展目标来说，赋予弱势群体和边缘化群体权力，让他们参与进来，是非常重要的。

联合国教科文组织 2005 年出台的《保护和促进文化表现形式多样性公约》提供了一个政策框架，它促进了地方和国家文化创意产业的发展，从而促进文化产品和其服务在全世界的平衡发展。此外，联合国教科文组织 1980 年关于艺术家地位的建议书中倡导提高文化工作者的专业、社会和经济地位。2021 年全年必须鼓励实行这些指导文件，汉斯·道维勒先生也非常重视这一点。

众所周知，新冠肺炎疫情的暴发在全球各领域造成了巨大的损失，尤其是在文化行业。该行业对场馆的依赖性很强，因为采取保持物理距离措施而限制了旅游的发展，使该行业受到了极大影响。根据国际博物馆理事会（ICOM）的数据，近 13% 的博物馆可能永远不会重新开放。许多小型创意企业和组织缺乏现金储备或捐赠金，正在为生存而战。由于该行业的就业往往是非正式聘用制，许多自由职业者和非全日制工人缺乏基础社会保障，所以这就成为一个大问题，这也就是为什么我们必须加快文化内容的数字化发展。在 2015 年到 2016 年的短短一年时间里，音乐行业的数字销售额增长了 16%。互联网技术也让公众能更好地接触和领略不同的文化，从而更好地刺激创新，产生更多的新作品，并有望为艺术家和创作者提供更为丰厚的报酬。新冠肺炎疫情期间的封锁措施表明，互联网的缺失会影响我们日常文化生活的正常进行。

如今有更多的创意交易活动在网

上进行，数字技术变革是 21 世纪促进创意经济繁荣发展的先决条件。因此，我们需要尽一切努力来关注互联网的发展、线上文化产品的版权保护和取酬方式、信息和通信技术基础设施的改善、创意工作者的培训，以及如何确保它们为我们的艺术事业和社会造福，这就是为什么我们需要认真的着眼于这种能够促进本地与全球发展的互联网平台。

教育也是值得我们认真考虑的一个领域。因为我们需要把信息和通信技术产业以及有创造力的人才引入到我们的工作队伍。我们必须仔细研究他们的群体，我们需要明白他们是如何融入联合国成员国并符合可持续发展合作内容框架的。2021 年是"创意经济促进可持续发展国际年"，也

是非常特殊的一年，我们需要汇聚联合国教科文组织的所有优势，同时也需要与联合国教科文组织保持密切发展关系。因为联合国教科文组织可以带来非常独特的文化、及相关的信息通信技术，同时，我们也需要让联合国开发计划署的其他部门参与进来与其他人一起促进创意经济，从而加快经济和社会的可持续发展。

我们已经做出了很多的计划。中国有 14 个创意城市，昨天我和向东开了一个会，我们将在中国成立一个关于中国自然文化创意城市网络。我也提议与创意中心建立强有力的伙伴关系。我们也已经在与包括蒙古在内的许多国家进行对话，我们将会为其带去专门的培训机会。

我们可能有诸多机会拓宽南南合

作的领域，我们与东盟以及亚洲部分国家，还有与非洲的合作有巨大的潜力。

我认为，创意经济和数字经济可能会给我们提供一些信息，来帮助我们更加深入地思考并且超越我们自身的极限。中国的"一带一路"倡议、南南合作正在惠及所有迫切需要这种帮助的人们。因此，我再次感谢你们，我很期待与你们保持长久的友谊和坚定的伙伴关系。无论何时你们需要我，我都会非常高兴地与你们合作，创意中心是联合国教科文组织的重要力量之一，更是促进世界可持续发展的重要组成部分。

UNESCO Highlights Culture's Contribution to Creative Economy

The special participant Professor Shahbaz Khan, Director of UNESCO Beijing Cluster Office, stated that UN had declared 2021 "the International Year of Creative Economy for Sustainable Development" and UNESCO had also launched an array of themed activities to highlight and enhance the contribution of culture to the global economy and sustainable development. He believed that the pandemic had dealt a heavy blow to the global cultural industry but accelerated the digitalization of cultural content. From 2015 to 2016, the digital sales value of the music industry increased by merely 16 percent in one year, but now the case is different. Internet technology has enabled the public to get closer to and learn about various forms of cultures, thus further stimulating innovation and the creation of new works as well as providing new forms of remuneration for artists and creators. "We need to bring ICT , and I would say the creativity-literate talents into our workforce.", He also mentioned digital economy and creative economy were both of great significance and that the mankind must think globally. Now China has played an irreplaceable role and launched the Belt and Road Initiative, trying to help all in the world. At last, he stressed that ICCSD was surely the non-negligible part of sustainable development, and he looked forward to deepening mutual cooperation.

I'm sure this particular seminar is a great contribution towards how do we accelerate the SDGs using creativity. I will quickly highlight some of the points from the UNESCO point of view, as well as the director and representatives here. I'm really looking forward to work very closely with the center and the advisory board.

The creative economy is one of the world's most rapidly growing sectors

and it currently contributes to 3 percent of global GDP. And one of the unique features of the creative economy is the dual nature of the values both through physical manifestation of creativity (e.g. films, paintings and books) and an intangible expression of creativity (e.g. dances, music and performances).

At the heart of the creative economy are cultural and creative industries (CCIs), which are operated at the

crossroad of arts, culture, commerce and technology. CCIs generate 2.25 trillion USD annually and employ over 30 million people worldwide [UNESCO, Re|Shaping Cultural Policies, 2018]. They are really very big job providers for young people from 18 to 25, and this is the industry of today and the industry of tomorrow.

Creativity is increasingly recognized as a renewable, omnipresent resource

for sustainable, human-centered development. So certainly very important for SDGs and empower and engage various vulnerable and at times marginalized groups what we regard who are left behind.

The UNESCO 2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions certainly provides a policy framework to stimulate the development of local and national CCIs which promote a more balanced flow of cultural goods and services across the world. I would also like to add that the UNESCO 1980 Recommendation concerning the Status of the Artist calls for the improved professional, social, and economic status of cultural workers. The adoption and implementation of these instruments must be encouraged throughout this year 2021 which is seen as special highlight by Hans.

COVID-19, as all of us know, has exposed many vulnerabilities, especially in the culture sector. Because this sector has heavy reliance on venues and it is also the hardest because its travel restriction problem throughout physical distancing measures: according to the International Council of Museums (ICOM), nearly 13 percent of museums may never reopen. Many small creative enterprises and organizations, lacking cash reserves or endowments, are fighting for their survivals. Due to the often-informal nature of employment in the sector, many freelance and part-time workers have slipped through the cracks of conventional social safety nets. So this is really very big issue

and that's why we have to accelerate the digitalization of cultural content. Digital sales in the music industry have recently increased by 16 percent in just one year between 2015 and 2016. Web-based technologies have the potential to expand public access to diverse cultural expressions, stimulate innovation and have many new innovative creations, and hopefully have better remuneration for artists and creators. Lockdown measures have demonstrated that a lack of access to the internet has a big limitation for our actually cultural life.

Creative transactions are now increasingly online, and using the digital revolution is a prerequisite for a flourishing creative economy of the 21st century. So certainly we need all efforts to bring attention to access to the Internet, copyright protection and remuneration for online cultural goods, improvement of ICT infrastructure, training of creative workers and of course how do we make sure their benefit for our arts and our society, and that's why we need to carefully look into this kind of platforms which can help locally and globally.

Education sector has to be very carefully considered also because we need to bring ICT , and I would say the creativity-literate talents into our workforce, so we have to carefully look into their collection, we need to understand how these fit into the UN countries, sustainable development cooperation frameworks. That's why this 2021 is a very special year, the Year of Creative Economy for Sustainable Development, and that's why we need to bring, of

course all strengths of UNESCO, but I would also say we need to work closely with UNESCO system , because UNESCO brings very unique aspect of culture and of course ICTs, but at the same time, we need to bring on board other parts of the UNDP , you and I, along with others to think of to creative economy to promote and accelerate the economic and social contributions to this sustainable development which we already slow down.

Lastly, There are 14 creative cities just in China, and we're going to have a network of natural culture creative cities in China. And I invite that we should have a strong partnership with ICCSD, so that's a very important action I would like to highlight to you. We're also already in dialogues with many countries, including the Mongolia, to which we will bring unique training opportunities.

There may be opportunities for us to think bigger for South-South cooperation. There are huge potentials working with ASEAN as well as the part of Asia, and of course Africa.

Creative economy and digital economy might find messages we need to think bigger and beyond our boundaries. And China's Belt & Road Initiative and the South-South Cooperation are benefiting all the people who need this help very very urgently. I really look forward to the friendship, the strong partnership whenever you can use me.I would be very happy to work with you. I see you as very big strength of UNESCO. ICCSD is certainly very important part of the sustainable development world.

数字技术
——支撑创意与创新变革的中流砥柱

创意中心执行主任肖澜在致辞中表示，创意与创新是城市可持续发展的关键。"数字技术无疑是当今社会最为重要的技术核心之一，它彻底改变了我们交流交往的方式，改变了我们与周遭环境的关系，改变了我们呈现艺术与文化的形式。"他还表示，特别是在新冠疫情席卷全球这一年的时间中，让人们在实体空间中的活动由于控制疫情扩散的需要而被迫暂停的时候，数字技术为世界各国搭建了另一个合作平台，用虚拟现实的方式维持了城市的运转。同时，肖澜指出，关于如何在法规与政策层面规范数字经济，如何让数字技术在线下的生态生活中发挥作用，如何使文创产业搭上数字经济的快车，这些问题急需探讨，他希望通过此次研讨会能够为数字经济发展贡献更多的智慧。

研讨会致辞 Seminar Address
肖澜（Xiao Lan）
创意中心执行主任
Executive Director of ICCSD

联合国教科文组织国际创意与可持续发展中心是由北京市人民政府向联合国教科文组织申请，并于教科文组织第三十八届大会上批准成立的致力于创意与可持续发展的研究与合作的 2 类中心。在成立之后的几年里，我们积极开展关于创意城市、创意经济与可持续发展等议题的研究；汇聚了世界各地文化创意、科技创新方面的专家及创新企业对相关议题展开持续的讨论；打造了期刊、网站、自媒体等多渠道的传播平台，传播创意可持续发展的理念；正在构建针对欠发达地区的培训项目，并积极与企业、社会组织等合作，开发示范项目。

经过几年的研究与探索，我们愈加坚信创意与创新才是城市可持续发展的关键。21 世纪的创意和技术爆炸使我们能够从全新的角度展示地方的传统和个性，以前所未有的方式逐渐化解如贫困与饥饿等由来已久的社会问题，并以创新的思维和技术协调经济发展与生态保护之间的利害关系。而作为支撑起这一切创意与创新变革的中流砥柱之一，数字技术无疑是当今社会最为重要的技术革新之一，它彻底改变了我们交流交往的方式，改变了我们与周遭环境的关系，改变了

我们呈现艺术与文化的形式。特别是在新冠疫情席卷全球之后的这一年中，当我们在实体空间中的活动由于控制疫情扩散的需要而被迫暂停的时候，数字技术为我们搭建了另一个活动平台，以虚拟现实的方式维持了我们城市的运转。

实际上，今天我们能以这样的方式见面，正是得益于数字技术的飞速发展。关于可视化通讯的研究可以上述到 20 世纪初期，但是真正实现较为流畅的视频通讯是在互联网技术取得长足发展的 21 世纪，而视频会议成为常态仅仅是去年一年发生的重要变化之一。当然，数字技术以及围绕着它的数字经济尚有许多不成熟之处，关于如何在法规与政策层面规范数字经济，如何让数字技术在线下的生产生活中发挥作用而不是与线下经济争利，如何使文创产业搭上数字经济的快车等等问题都急需探讨。这也是我们今天举办这次研讨会的目的。希望此次研讨会能够为数字经济与文化产业融合这个领域贡献更多的智慧。

中国非常注重数字经济的发展，设立了许多新的政策涉及到数字经济。创意产业是全球化的，增长最快的，具有很大的未来发展前景，而且

是全人类的共同的财富。这两个领域需要更多的代表着我们前沿探索的专家和企业来参与。创意中心将利用自身的国际化智库团队，围绕数字经济和创意产业继续开展未来研究并进行深入地研讨。希望未来我们能够邀请到这两个领域更多的专家、企业家与政策制定者一道来举办更有深度和更加聚焦的研讨。中心对此充满期待。

Digital Technology—One of the Mainstays of Creative and Innovative Changes

Xiao Lan, Executive Director of ICCSD expressed in his speech that creativity and innovation meant a lot to cities' sustainable development and that such a special meeting was exactly attributed to the rapid growth of digital technology. "Digital technology is undoubtedly one of the most important core technologies in today's society. It has thoroughly changed the way we communicate and interact, the relations between us and the surroundings, as well as the forms in which we present art and culture". He also noted digital technology had provided a new cooperation platform for countries around the globe and maintained the sound operation of cities in the form of virtual reality, especially when the pandemic swept the world for a whole year and real life events had to be suspended in an effort to prevent the spread of the pandemic. Besides, he hoped that this seminar would help promote the development of digital economy by contributing more great ideas on how to regulate digital economy with laws, regulations and policies, how to utilize digital technology in offline ecology and real life, as well as how to support cultural and creative industries with digital economy.

The International Center for Creativity and Sustainable Development under the auspices of UNESCO is a Category 2 center for research and cooperation on creativity and sustainable development. It was established by the People's Government of Beijing Municipality and was approved at the 38th session of the UNESCO General Assembly. Since its inception, we have been conducting research on topics such as creative cities, the creative economy, and sustainable development, and have brought together experts and innovative companies from around the world in cultural and creative industries, as well as technological innovation for an ongoing discussion on related topics. We have created a multi-channel communication platform integrating periodicals, websites, and we-media accounts to spread the concept of creativity and sustainable development. We are developing training programs for less developed regions, and are working with companies and non-governmental organizations to develop demonstration programs.

After several years of research and exploration, we are increasingly convinced that creativity and innovation are the keys to the sustainable development of cities. The booming of creativity and technology in the 21st century allows us to present local traditions and uniqueness in a new light, gradually address long-standing social issues such as poverty and hunger in unprecedented ways, and reconcile the stakes between economic development and ecological conservation with innovative thinking and technology. As one of the mainstays of all these creative and innovative changes, digital technology is undoubtedly one of the most important technological innovations in today's society. It has radically altered how we communicate with each other, relate to our surroundings, and present art and culture. Especially in the year after the COVID-19 swept the world, when our activities in physical space were forced to be suspended due to the need to control the spread of the coronavirus, digital technology has built another platform for us to take part in activities, keeping our cities running with the help of virtual reality.

In fact, it is thanks to the rapid development of digital technology that we can meet in such a way today. Research on visual communication can be traced back to the early 20th century, but the realization of smooth video communication is in the 21st century when Internet technology has made great strides. Video conferencing becoming the norm was just one of the important changes that has occurred in the last year. Of course, digital technology and the digital economy centered on it are still immature in many ways. There is an urgent need for us to discuss questions such as how to regulate the digital economy at the level of regulations and policies, how to make digital technology work in offline production and life instead of competing with the offline economy for profits, and how to advance the cultural and creative industries through the digital economy. That is the purpose of today's seminar. We hope that all guests will express your views freely and help address the issues that we face.

China attaches great importance to the development of digital economy and has set up many related new policies. Creative industries, featuring global development with the fastest growth speed and are great prospects, are the common wealth of all mankind. Both the digital economy and creative industries need more participation from experts and companies representing the frontier exploration level. ICCSD will continuously conduct in-depth future research by making a good use of its own internationalized think-tank team. ICCSD is expecting to invite more experts, entrepreneurs and policy makers from these two fields to join us for more in-depth and focused seminars.

国民经济的生产力比以往任何时候
都更加依赖于数字世界的互联互通

汉斯·道维勒分析了数字经济对全球文化创意产业经济发展的影响。他表示，新冠肺炎疫情的暴发无疑对全球创意产业价值链带来了一定的影响，而以数字技术为驱动的数字经济正日益影响到全球文化创意产业经济的发展，并且有助于联合国可持续发展目标的实现。"数字经济的相互连通不断促进国民经济增长，以数字技术工具为驱动的所有文化和创意活动都是创意经济的重要组成部分，因此它们也属于数字经济。"数字技术让所有人充分参与到社会发展活动中，获得优质的教育、知识、医疗卫生保健、体面的工作、可承担的起的住房、社会保障和文化资源等，促进了社会的包容发展。

主持人 /Host
汉斯·道维勒（Hans d'Orville）
创意中心咨询委员会主席；
联合国教科文组织前战略规划助理总干事
Chairman of ICCSD Advisory Committee;
Former Assistant Director-General for Strategic Planning, UNESCO

"创意2030"项目是联合国教科文组织国际创意与可持续发展中心（以下简称"创意中心"）的示范项目，也是新兴创意经济不可分割的一部分，而创意经济在国民经济中占有越来越大的比重。

联合国已将2021年设为"创意经济促进可持续发展国际年"。在当前背景下，我们的讨论十分切题且十分切题。在过去一年中，新冠肺炎疫情的暴发无疑对全球创意产业价值链带来了一定的影响，覆盖创造、生产、经销和使用等方方面面。文化产业涵盖多方面元素，富有创意和活力，本该迎接新一轮蓬勃发展，却在疫情的冲击下暴露出自身固有的脆弱性。

今天研讨会关注的重点在于数字经济，数字经济以数字科技为基础并由数字科技驱动。数字经济和数字科技对文化创意产业及全球创意经济的影响越来越明显。

数字科技为我们带来了新的机遇，有利于实现联合国关于社会发展的关键目标，即消除贫困、促进充分就业和生产性就业、建立包容性和平等社会。数字科技让所有人充分参与到社会发展活动中，并获得优质的教育、知识、医疗卫生保健、体面的工作、可承担的起的住房、社会保障和文化资源等，促进了社会的包容发展。

公众、艺术家、创作者、企业和机构之间进行交易和交流活动，应用多种设备，涉及多个过程，由此产生不可计数的数据。交易和交流过程中会使用不同的移动设备和数字工具，包括互联网、视频和工业4.0的多个组成部分，即人工智能、区块链、机器人技术、物联网、大数据和3D打印等。这将最终改变我们生活和工作的方式，改变我们相处的方式，助力联合国可持续发展目标的实现。

自动化和人工智能对经济发展的潜在影响将不可估量。历史上，经济危机会促使企业投资自动化设备，以降低劳动成本。当前疫情背景下，我们不得不保持社交距离，由此加速了上述转变。许多领域的从业者正面临被软件、聊天机器人、数字信息亭和自主机器人取代的风险。

各大城市计划大力投资数字孪生、3D打印、数字仓库、增强现实、虚拟现实、区块链、数字仪表板和无人机技术。这些技术都与文化创意产业息息相关。城市之间的关系将会更加紧密，利用技术和数据吸引市民和社区参与城市治理过程，将大大提高城市的创意和创新能力，从而有助于实现联合国可持续发展目标。

新冠肺炎疫情冲击下，许多高科技得以应用，但这也暴露了许多不足。

在新冠肺炎疫情背景下，城市首当其冲，其发展正在发生变化，这将影响地点、空间和时间的性质发生改变。因此，城市是联合国教科文组织全球创意城市网络（UCCN）的重要组成部分。要实现联合国可持续发展目标离不开城市的参与。智慧城市将不断提升协作治理水平，共同应对全球范围内最为棘手的问题，其中一些问题还有待我们发掘和认知。

在实现联合国可持续发展目标方面，非洲地区面临着最大的困境。环境退化、贫困、失业、文化多样性和生物多样性弱化等各类问题让非洲社会头疼不已。好消息是，活跃的社交媒体和发达的移动通讯网络将为建设智慧城市和保护文化遗产带来新的发展机遇。我们应该注重保护多样性、促进社会包容和平等，在应用任何技术时都确保一切为提高全人类生活水平服务。信息通信技术（ICTs）可以帮助原住民保护和分享他们的文化，为他们提供有效平台，让世界听见他们的声音，了解他们的需求，同时克服地理距离等问题，帮助他们更多地参与社会各项活动，让他们有机会与世界其他地方的人民进行交流和交往。

新冠肺炎疫情冲击下，许多高科技得以应用，但这也暴露了许多不足。

人类社会经济和文化的发展都存在着诸多问题，必须更多关注公众健康、社会包容性及多样性。文化内容及文化实践具有突出意义，应加强引导和支持。社会的进一步发展离不开文化，而社区文化和非物质性文化遗产具有特殊意义。新冠肺炎疫情颠覆了传统城市发展模式，城市移动性、基础设施、住房、教育、能源消费和文化角色都面临着诸多挑战，而应对这些挑战都离不开创意的发掘和应用。

当前环境下，国民经济的生产力比以往任何时候都更加依赖于数字世界的互联互通。各类由数字工具驱动的文创活动、表演和产品都是创意经济和数字经济的重要组成部分。

数字经济催生了新的科技工具和处理过程，同时也在不断影响着文创产业的各个部分。因此，数字经济和文创产业呈现出相辅相成的双向关系。新冠肺炎疫情背景下，为防止疫情进一步扩散，许多文化场所被迫停业，有些甚至永远消失在公众的视野。受到影响的还包括博物馆、电影院和音乐厅等。所有涉及到现场表演和现场观众的文化活动都不得不遵循一系列严格的限制性规定。数字基础设施、数字科技和数字工具发挥了极其重要的作用，为展示、传播和分享文创作品和活动提供了极大便利，全球人民得以尽享参与的乐趣。

新冠肺炎疫情中后期，创意经济发展越发依赖数字科技的运用。在数字科技的帮助下，线下活动转为线上和直播，催生出新的文化呈现形式、文化技能和文化消费。

多媒体展览、拍卖、音乐表演、音乐会、剧院演出、舞蹈表演、书展、电影、文化遗产保护、文旅宣传、会议和其他一系列创意交流活动进入"数字云时代"。传统文化产业、当代文化产业和新型文化产业以及新颖创意模式的方方面面将不断升级和实现多样化发展。多样化的数字科技将彻底改变我们的世界，我们可以即时即刻获取信息，可以实现重复选择，随时随地共同参与和资源共享，这将极大推动教育和学习的发展。新常态下，线上和直播表演、展览、拍卖、

会议和许多其他多彩活动为我们提供了数不尽的选择。

数字科技有助于加速实现《2030年可持续发展议程》，但同时也带来了新型风险。数字转型的加速发展可能会扩大世界许多地区间的数字鸿沟，从而加剧现有的社会经济不公平现象。不仅如此，科技与创新及科技与社会经济政策之间存在一定程度的不同步问题。因此，特定情况下新科技不一定会促进社会发展和增进人民福祉。

文化发展也依赖于社会交际。近日，查尔斯·兰德利（Charles Landry）在创意中心咨询委员会会议上提到，创意模式影响着各个年龄、各个种族和各个民族人民之间的交流，也影响着世界劳动市场的重新定位。

后疫情时代，世界为我们提供了珍贵的机遇期，全社会有必要加快转型，实现可持续发展。经济发展的最终目的应该是增进人类福祉和各项能

力，同时更好地保护我们赖以生存的地球家园。加快社会转型需要我们改变思维定式和处理方法，放弃追求短期经济发展和物质利益，在《2030年可持续发展议程》的框架下实现经济、社会和环境的平衡发展，为全人类的可持续发展服务。

今天的研讨会重点关注数字科技和数字技术在广义上文创产业带来的影响。为控制疫情，数字基础设施在疫情中扮演了什么角色？有哪些创新举措和科技发挥了重要作用？我们也该深思创新活动的定位，以确保新兴科技的应用为社会包容性和可持续发展服务，尊重并扩大文化多样性，增进全人类福祉，由此促进《2030年可持续发展议程》的实施。这也是"创意2030"项目的初衷和核心。

联合国应继续支持成员国及其社区实现社会多样性和文化多样性转型，最终实现可持续发展目标。同时，联合国应帮助世界各国加强数字领域的合作，尤其是发展中国家。

The Productivity of National Economy Is Driven Ever More by Digitally Based Inter-connectedness

Hans d'Orville, Chairman of ICCSD Advisory Committee and Former Assistant Director-General for Strategic Planning, UNESCO, analyzed the impact of digital economy on the economic development of the global cultural and creative industries. He stated that the pandemic had undoubtedly impacted the value chain of the global creative industries to some degree while digital economy supported by digital technology was increasingly influencing the economic development of the global cultural and creative industries and helped fulfill the SDGs of UN. "The productivity of national economies is driven ever more by digitally based interconnectedness. All types of creative and cultural activities, performances and products, if generated and driven by digital tools, are an integral part of the creative economy and hence the digital economy." Digital technology enabled all to fully participate in the activities of social development and to get decent jobs, affordable housing, social security, health services, premium resources of education, knowledge and culture, thus promoting the inclusive growth of today's society.

Creativity 2030 is the demonstration project of ICCSD, and it is also part and parcel of the emerging creative economy, which accounts for an increasing share of national economies, if not the global economy.

Our discussion is particularly appropriate and indeed highly relevant, as the united nations general assembly has designated 2021 as international year of creative economy for sustainable development. In the past 12 months, no actor within the creative value chain has been spared from the impact of the pandemic, whether it be in the creation, production, distribution or access. This has added gravely to the otherwise intrinsic vulnerabilities of various elements of the culture sector that otherwise is considered to be thriving from, and replete with, creativity and innovation.

At today's forum we are focusing on the digital economy, which is based on and driven by digital technologies. They affect increasingly the cultural and creative industries and, thus, the creative economy – worldwide.

Digital technologies offer new opportunities for achieving the core objectives set by the UN for social development, namely eradicating poverty, promoting full and productive employment and fostering social inclusion and equity. Digital technologies can foster social inclusion by facilitating the full participation of all people in society and by ensuring their access to quality education, knowledge, health care, decent work, affordable housing, social protection and cultural assets and practices.

Billions of transactions and interactions among people, artists/creators, businesses, institutions, multiple devices and processes are generating zillions of data. They are conducted through digital and mobile tools – ranging from the internet to video to all new components of industry 4.0 such as artificial intelligence, block-chain, robotics, the internet of things, big data, 3D printing and more, all of which eventually will transform the way we live, work and live together and help attain the SDGs.

There is a significant potential impact that automation and artificial intelligence will have on our economies. Historically, recessions have prompted companies to increase investments in automation to reduce labor expenses. The social distancing dynamics of the current pandemic have accelerated that change. Jobs in many sectors are increasingly at risk of replacement by software, chatbots, digital kiosks and self-propelled robots.

Cities plan to increase investments significantly in digital twins, 3D printing, data warehouses, augmented and virtual reality, block-chain, digital dashboard and drones – all of which have cultural and creative dimensions. – smart cities 4.0 are hyper-connected cities that use technology, data and citizen engagement and thrive with creativity and innovation to achieve the SDGs.

Cities are on the front line on experiencing the changes in a pandemic environment, affecting the nature of place, space and time. Hence cities are a crucial part of UNESCO's creative cities network.

The importance of cities to advance SDG policies cannot be overstated. Smarter cities will lay the groundwork for collaborative governance in dealing with the world's most wicked problems, some of which have not even entered fully our conscience and knowledge yet.

For its part, Africa faces the most challenges in meeting the SDG commitments – with its high levels of environmental degradation, poverty and unemployment – and the loss of cultural and biological diversity. However, social media and high mobile broadband penetration provide some unique opportunities for smart city solution and cultural heritage preservation. We should be mindful of the value of diversity, equity and inclusion to ensure that any techniques and technology are based on improving quality of life for all.

For indigenous peoples, information and communication technologies (ICTs) can help them to preserve and share their culture and can provide a powerful platform for making their voices and interests known, while to overcome geographical remoteness and thereby ensure greater participation in all aspects of society and interaction with the world at large.

The pandemic has taught us both low-tech and high-tech lessons. It has laid bare issues of social, cultural and economic vulnerability, increasing our focus on public health, inclusion, diversity and the value and role of culture and cultural practices. It has underscored the importance of a city's social and cultural fabric and the seemingly intangible benefits of neighborhoods and heritage.

The pandemic has upturned traditional urban development models and compelled cities to re-imagine mobility, infrastructure at large, housing, education, energy consumption and the role of culture – all of which are underpinned by creativity.

The productivity of national economy is driven ever more by digitally based inter-connectedness. All types of creative and cultural activities, performances and products, if generated and driven by digital tools, are an integral part of the creative economy and hence the digital economy.

Vice versa, as the digital economy spawns new technological tools and processes, they are progressively impacting cultural and creative processes. This establishes an innate interrelationship between both.

Covid-19 caused the closure if not disappearance of many cultural venues in an effort to prevent the unchecked spread of the pandemic. Museums, theatres, concert halls have been the victims. All cultural activities involving human live performers and the presence of an audience have been subject to severe restrictions.

In such an environment, digital infrastructure and digital technologies and tools have played an exceedingly important role to enable the presentation, dissemination, sharing and global enjoyment of cultural and creative works and events.

This has informed the increasingly significant role of digital support for the creative economy in a pandemic-afflicted world – and beyond. Real life, physical events have shifted to virtual events facilitated by digital technologies and the streaming of online presentations, generating new forms of cultural presentations, skills and consumption.

Multimedia exhibitions, auctions, music performances, concerts, theatre plays, dance performances, book presentations, movies and films, cultural heritage presentations, cultural tourism promotion, conferences and a plethora of other creative exchanges have migrated to the digital cloud world. They are apt to upgrade and diversify the whole range of traditional, contemporary and new types of cultural industries and novel modes of creation.

The results will be instantaneous access, repetition by choice, ubiquitous access, global sharing and education as well as learning – thanks to the panoply of digital technologies. The 'new normal' is being defined by online and streaming performances, exhibitions, auctions, conferences and many more digitized exchanges.

Although digital technologies have the potential to accelerate the realization of the 2030 SDG agenda, they also give rise to new risks, the accelerated pace of digital transformation is expected to further deepen the digital divide in many parts of the world, which could, in turn, exacerbate existing socio-economic inequalities. There has also been little alignment between science, technology and innovation, on the one hand, and socio-economic policies, on the other hand. As a result, new technologies may not necessarily serve to advance social development or improve the well-being of all people.

Culture also depends on social interaction, as Charles Landry suggested at our recent advisory committee meeting, human exchanges among people of all ages, races and ethnics as well as a reorientation of the world of work, influenced by creative models.

The recovery from the covid-19 pandemic provides a window of opportunity for promoting a socially just transition to sustainable development, where economic growth is used as a means to advance human well-being and capabilities, while protecting the planet. Enabling a socially just transition requires a shift in mindsets and approaches, from pursuing short-term economic and material gains to re-balancing economic, social and environmental objectives within the framework of the 2030 agenda, in order to build a common sustainable future for all.

Our seminar will focus on the impact of digital technologies and tools for a broad range of cultural and creative industries. What role does the digital infrastructure play during the pandemic in efforts to overcome it? What innovations have been brought to the fore?

We should also reflect on the directionality to innovation activities in order to ensure that emerging technologies are developed with inclusiveness and sustainability at their core, respect for and reinforcement of cultural diversity and to improving the well-being of all people, thereby facilitating the implementation of the 2030 agenda. This is the essence of the creativity 2030 programme.

The United Nations system should continue to support member states and their communities in the pursuit of socially and culturally diverse transitions towards the realization of the SDGs and facilitate international digital cooperation, especially in support of developing countries.

数字经济赋能创意产业

梅里·马达沙希指出，"数字经济影响了整个创意产业价值链，改变了我们日常沟通、创造和工作的方式，成为创意经济的'规则改变者'。数字时代也迎来了一个更加复杂的生态系统，像谷歌(Google)、亚马逊（Amazon）和奈飞（Netflix）等大型科技公司也不断加入到该生态系统中。"她还提到，疫情带来了前所未有的颠覆，经济的数字化也在加速，其中四个技术非常的重要，一个是增强现实，还有一个虚拟现实，人工智能以及区块链等，它们能够让人们去实现和发展未来的创意经济。

梅里·马达沙希（Mehri Madarshahi)

创意中心咨询委员；华南理工大学客座教授；
联合国前高级经济官员

Member of ICCSD Advisory Committee;
Former Senior Economist of United Nations;
Visiting Professor of Institute for Public Policy (IPP),
South China University for Technology

近日，创意产业成为社会热词，政府和私营部门都积极参与到创造性活动，促进创意产业发展。就其本质而言，创意产业这种新话题所覆盖的范围和在不同的领域将引发不同的阐释。为了避免长篇大论，我仅选取部分范围和11 个文化领域进行分析和阐释，包括音乐、图书、艺术、电影、广播、表演艺术、建筑、设计、媒体、广告、软件和游戏。（图 1）

The cultural and creative
industries and their segments
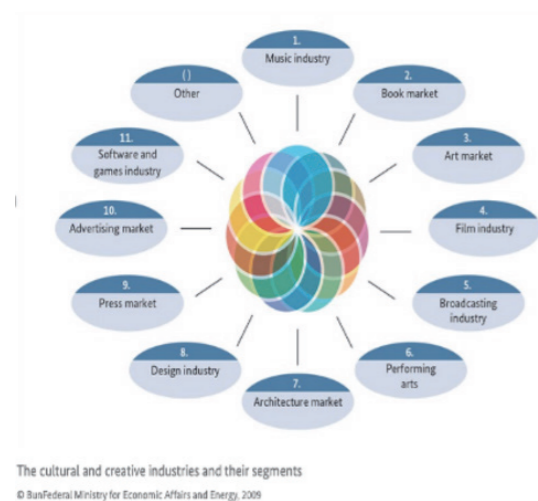
图 1 (Table 1)

联合国贸易和发展会议 (UNCTAD) 将创意产业定义为一个包括多种细分领域（图 2）相互作用的广泛范围，从传统手工艺到以科技为导向的多媒体服务无不涉及。

图 2 (Table 2)

联合国将 2021 年设立为"国际创意经济促进可持续发展年"。行动的具体执行由联合国贸易和发展会议与联合国教科文组织等其他联合国相关机构协商负责，聚焦文化创意产业对全球经济和可持续发展的贡献作用。

"国际创意经济促进可持续发展年"来得恰逢其时。新冠肺炎疫情对全球带来了灾难性影响，不仅阻碍了经济发展和社会进步，同时也让多边主义、全球主义和全球治理的实用性饱受质疑。疫情阻碍了创意产业的发展。从创作到生产，从分销到获取，全球创意产业价值链的方方面面无不涉及。这次疫情危机也暴露和加剧了文化产业固有的脆弱性。许多艺术家和文化专业人员无法获得能够拯救其他行业从业者的社会经济援助。

截止到今日，新冠肺炎疫情仍然继续肆虐全球。各国边境大范围封锁，场馆不得不暂时停业，人们不得不保持社交距离，这尤其影响到以现场表演和场馆为基础的行业，

影响到人们的生活水平、艺术家的活动、市场准入和艺术自由，同时还波及到与价值链息息相关的供应商和服务提供商。手工艺行业在许多国家为很多人提供了就业机会，也受到了疫情的打击，经历了行业大滑坡。数字化趋势不断增强，原有的不公平性也暴露出来。


图 3- 文化产业对经济发展的贡献
（Table 3-Contribution of cultural sectors to advancements of economy）

2019 年，文化产业是经济中发展最为迅速的产业之一（图 3）。例如，在经济合作与发展组织（OECD）所有成员国中，创意经济体年增长率是服务业的两倍，是制造业的四倍，创造大量就业机会，激发创新潜力。与此同时，创意产业全球价值总额接近 1.3 万亿美元，占经济合作与发展组织成员国及发展中国家 GDP 的 2% 至 6%。

回顾过去，创意产业对全球经济的贡献显而易见。2002 年创意产业在全球市场范围内的商品价值为 2080 亿美元，而 2015 年这一数字翻了两番，达到 5090 亿美元。创意产业成为全球经济发展最为迅速的行业之一，为世界人口提供了近 3000 万个就业机会，年龄在 15 岁到 29 岁的就业人口超过了其他任何行业。创意产业的收入超过了电信服务业（全球总收入达到 1570 美元），甚至超过了印度全年 GDP1.9 万亿美元。
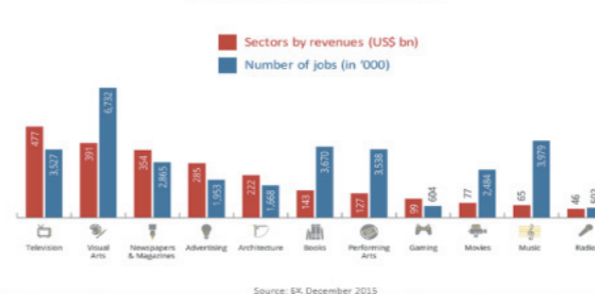
创意产业提供了 2950 万个就业机会，覆盖了全球劳动力人口的约 1%。提供最多就业机会的前三名行业分别是视觉艺术（673 万）、图书（367 万）和音乐（398 万）。创意产业提供的就业机会甚至超过了美国、欧洲和日本汽车制造业的总和。
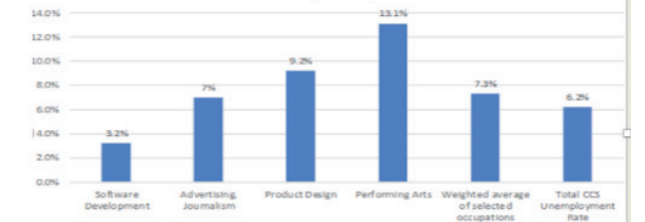

研究者发现，创意产业不存在年龄和背景限制，大大促进了青年人就业和实现抱负。在欧洲，文化产业 15 岁到 29 岁的从业人口数量超过了其他任何行业，女性从业人口数量也超过了任何传统行业。英国政府收集的数据表明，2014 年音乐行业的女性从业人口数量超过了总数的50%，而女性从业人口占总劳动力人口的 47%。2019 年，11 个文化产业共产生收入约 2.25 万亿美元（占全球 GDP 的 3%）。收入最高的前三名行业分别为电视（4770 亿美元）、报刊杂志（3540 亿美元）和视觉艺术（3910 亿美元）。

突如其来的新冠肺炎疫情给文化生活和艺术呈现造成了不可估量的负面影响。许多国家不得不迅速取消计划好的活动，接下来多国实行边界封锁，东京奥运会、其他体育盛会、节日庆典和艺术博览会等全球性活动不得不被取消或推迟。

现在难以估量疫情对文化产业价值链及细分行业带来的影响。但是，一些数据让我们认识到这次破坏的严重性。仅在法国，疫情已经影响到 2000 家剧院、3000 家书店、1200 家博物馆、1000 家电影院、成百上千的艺术画廊及包括节日庆典和商品展销会在内的现场活动。斯洛文尼亚的一项调查数据显示，文化从业者预计 2020 年行业收入额平均下降 44%。63% 的文化企业家认为政府举措无法弥补已有所失。2020 年 6 月收集的数据表明，德国就业率下降逾 6%。

然而，人们很快就开始寻求艺术和文化呈现和消费的新方式。艺术家、制作人、博物馆和文化机构转移到线上，提供网上直播，以创新方式应用数字工具。覆盖范围包括

建筑、档案、图书馆、博物馆、手工艺、物质和非物质文化遗产的视听作品、设计、节日庆典、音乐、文学、表演艺术、出版、无线电广播和视觉艺术等。

数字化改变了创意经济的发展方式，影响到整个创意价值链，改变了我们交流、创造和工作的方式。数字时代也为我们建立了更加复杂的生态，谷歌 (Google)、网飞 (Netflix) 和亚马逊 (Amazon) 等许多大型技术公司也参与其中。

新冠肺炎疫情背景下，人们更为广泛和清晰地认识到文化产业对经济的巨大贡献。诺贝尔经济学奖获得者保罗罗默（Paul Romer）在 2004 年发表过著名言论："危机带来的契机绝不可浪费。"诸如此类的疫情也为我们提供了独特机遇，让我们对政府体制、科学、经济前景、社会文化舒适区及消费主义有了新的认识。

为应对这些挑战，科技创新至关重要，其有利于相关政策的推行，来减少贫困、消除极端饥饿、保证人人可获得干净水源、提高农耕水平、提升教育质量、更好地处理废物、加强交通便利性和提升人民健康水平。与此同时，文化创意产业的发展也离不开信息科技。

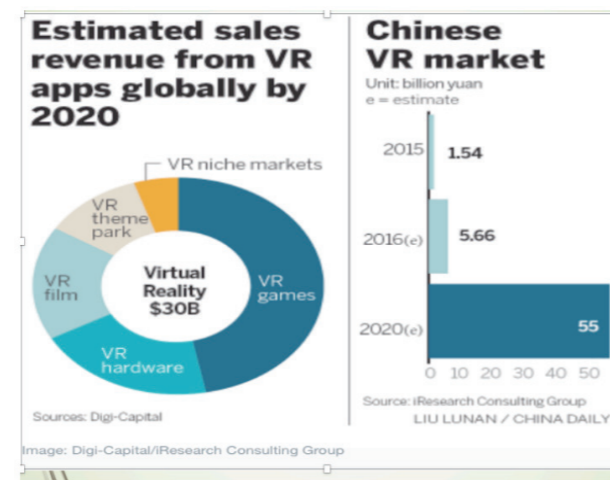如今，人工智能飞速发展，物联网、机器人技术、生物技术、纳米技术、量子计算等新兴科技走在时代前沿，发展以这些技术为基础的数字经济将给食品生产、商品业、服务业和劳动力市场带来巨变。

疫情危机让我们看到世界未来的发展趋势。医生可以通过视频通话的方式治疗另一个国家的病人。老师可以为在家学习的学生提供远程指导，就像呼吸机的工作原理一样，工程师可以向 3D 打印机输送设计文稿以替换或修改部分内容。随着危机的不断蔓延，数字化运用将越来越突出。

新冠肺炎疫情带来的空前破坏告诉我们，转变刻不容缓，我们必须更加灵活地应对各类挑战。行业结构和商业模式正在发生改变，而经济数字化转变不断加速。其中四种技术非常重要，它们分别是增强现实、虚拟现实、人工智能和区块链。虽然作用尚未可知，但是这些技术将一同在本质上改变创意经济中我们生产和消费内容的方式。

数字科技给我们提供许多处理问题的方法，一些方法在日常生活中已经得到广泛运用。我们可以在家上班，网上购物，不用见面就可以与朋友交往联系，互享信息，甚至可以建立自己的初创公司。

尽管如此，数字技术的进步和发展也存在不利的一面。事实上，我们并不清楚未来将出现什么，技术应用的规模、范围和复杂性将不可避免地引发一场我们从未经历过的巨变。数字技术将从根本上改变我们生活、工作以及彼此联系的方式，而人工智能、机器人技术、物联网、自动驾驶、3D 打印、纳米技术、生物技术、材料科学、能源存储和量子计算等新兴科技也在不断实现突破，从而加速了上述改变。数字技术的快速发展可能很快就会给我们带来严峻的挑战。未来十年经济中创造的新价值中约有 70% 的部分将

基于数字化平台的商业模式，但 47% 的世界人口仍然无法获取互联网服务，无法支持和使用数字化设施。因此，现有的贫富差距将进一步扩大，而许多落后且表现不佳的国家需要进一步投资却又无法迎头赶上，出现收入差距、贫困和失业等诸多问题。

Estimated sales revenue from VR apps globally by 2020

VR niche markets
VR theme park
VR film
Virtual Reality $30B
VR games
VR hardware
Sources: Digi-Capital

Chinese VR market
Unit: billion yuan
e = estimate
2015　1.54
2016(e)　5.66
2020(e)　55
0 10 20 30 40 50
Source: iResearch Consulting Group
LIU LUNAN / CHINA DAILY

Image: Digi-Capital/iResearch Consulting Group

我们担心"武器化"人工智能会在我们不知情的情况下操纵我们，通过散布言论来影响我们的重要决策，比如如何选举和给谁投票（最近的美国总统大选是最具代表性的例子之一）。这可能会打击我们发展数字经济所必需的信心，影响社会稳定。"数字垄断"还可能引发对数据隐私、所有权和安全的担忧。"赢者通吃"的经济意味着只有部分人有机会进入中产阶级，民主制度将暴露和显现出自身固有的诸多弊病。

然而，今天的决策者往往陷入传统的线性思维，或同时过多专注多重危机，而无法从战略上深思塑造我们未来社会的颠覆性创新力量。我们需要塑造为全人类服务的未来社会，把人民利益放在首位，让人人都有能力应对和处理未来的多重挑战。
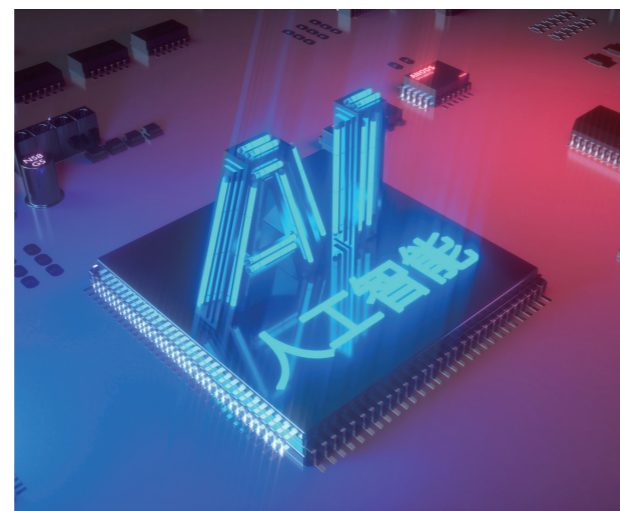
THE ROLE OF DIGITAL ECONOMY IN ADVANCING CREATIVE INDUSTRIES

Mehri Madarshahi, Member of ICCSD Advisory Committee and Former UN Senior Economist pointed out, "Digtalization has been a game changer for the creative economy, impacting the entire creative value chain and changing the way we communicate, create and work. The digital age has also led to a more complex ecosystem with new large tech players, such as Google, Netflix and Amazon, entering the market." She also mentioned that the pandemic had brought unprecedented changes and accelerated economic digitalization. At present, four types of technologies were of great significance, namely Augmented Reality, Virtual Reality, Artificial Intelligence and Blockchain. They would help the mankind build and develop the future creative economy.

Introduction

Creative industries is the name of the game in these days where both governments and private sectors have become keenly involved in its creations and advancements. Such a new topic, by its nature, could give rise to variety of interpretations on its scope and its diverse sectors. For the sake of this article, therefore, I decided to select a limited parameters and reflect on 11 cultural sectors such as music industry, book market, art market, film, broadcasting industry, performing art, architecture, design, press, advertising, software and game as shown in the following presentation (Table 1).

The scope of creative industries as defined by the United Nations Center for Trade and Development (UNCTAD) involve a vast field dealing with the interplay of various sub-sectors (Table 2) from traditional art crafts to technology-oriented multimedia services.

Progress paralyzed

The year 2021 was declared the International Year of Creative Economy for Sustainable Development by the United Nations General Assembly. The implementation of the Year is being led by UNCTAD, in consultation with UNESCO and other relevant UN entities, focusing on the contribution of culture/creative industry to the global economy and to sustainable development.

The International Year of Creative Economy for Sustainable Development could not have come at a more relevant time: COVID-19 brought havoc to the global community. It did not only stop economic and social progress, but also raised questions about the practicality of multilateralism, globalism and global governance.

The COVID-19 pandemic paralyzed the progress of creative industries. From creation, production, distribution to access, no actor within the creative value chain has been spared its impact. This crisis also revealed and worsened the pre-existing vulnerabilities within the culture sector.

Many artists and cultural professionals have been ineligible for social and economic assistance that saved workers in other sectors.

As of today, the pandemic continues its all encompassing devastation. Wide-spread closures of borders, venues and

physical distancing measure, in particular, have hard hit the Live performance and venue-based industries, impacting livelihoods, artist mobility, market access and artistic freedom, together with broader repercussions for the value chain of suppliers and service providers. The crafts sector, a critical employment provider for many countries, has experienced a massive downturn. The crisis has accelerated pre-existing trends, in particular digitalization, and has exposed the pre-existing inequalities.

Year 2019, was the year when culture represented one of the most rapidly expanding sectors of economy (Table 3).

For example, the creative economies among member countries of the Organization for Economic Cooperation and Development (OECD) grew at an annual rate twice that of service industries and four times that of manufacturing, generating employment and providing outlets for innovation.

At the same time, cultural industries reached a global value close to 1.3 trillion USD comprising 2 percent to 6 percent of GDP in many OECD countries and among the developing countries.

A review of the past contributions of creative industries to the economy of the global community could show a notable result. The value of the global market for creative industrial goods had doubled from $208 billion in 2002 to $509 billion in 2015 and as the most rapidly growing sectors of the world economy, it generated nearly 30 million jobs worldwide, employing more people aged 15 to 29 than any other sector.

Revenue from creative industries exceeded those of telecommunications services (which comes in at $1,570 globally and even surpassed the entire GDP of India ($1,900 billion).

Creative industries generated 29.5 million jobs, which employ about 1 percent of the world's active population. The top three employers are visual arts (6.73 million employees), books (3.67 million) and music (3.98 million).

Creative industries also employed more people than the automotive industry in the United States, Europe and Japan combined.

Researchers found that creative industries are open to people of all ages and backgrounds, and provide a significant contribution to youth employment and careers.

In Europe, cultural sectors employ people between the ages of 15 and 29 more than any other sector; they also have more women participants than any traditional industries. Statistics compiled by the government of the United Kingdom show that women accounted for more than 50 percent of the people employed in the music industry in 2014, compared with 47 percent in the overall active population.

In 2019, among 11 cultural sectors revenue generated was around $2,250 billion (3 percent of world GDP). The highest earners were television ($477 billion), newspapers and magazines ($354 billion) and visual arts ($391 billion).

The negative impact of the coronavirus on cultural life and artistic expressions was, however, sudden and unpredictable. It forced many nations to retreat from all their planned activities at short notice and the ensuing lockdown caused cancellation or postponement of global events such as the Tokyo Olympics, other sports programs, festivals, arts fairs and exhibitions.

At present, it is difficult to assess the overall economic impact on the value chain and its sub-sectors; nevertheless, some estimates provide an essential snapshot of the seriousness of damage suffered by the industry. In France alone, the health crisis is affecting 2 000 cinemas, 3 000 bookshops, 1 200 museums, 1 000 theaters, hundreds of art galleries and life events including festivals or trade fairs. In Slovenia a survey shows that cultural workers expect the turnover of businesses to decrease by an average of 44 percent in 2020. 63 percent of cultural entrepreneurs felt that state measures were insufficient to cover the losses.

German employment index retracted by over 6 percent as data collected in June 2020 show.

However, it did not take long until new ways for presenting and consuming art and culture in different forms were pursued. Artists, producers, museums and cultural institutions switched to online streaming and digital tools in innovative ways. These included architecture, archives, libraries and museums, artistic crafts, audiovisual tangible and intangible cultural heritage, design, festivals, music, literature, performing arts, publishing, radio and visual arts.

Digitalization has been a game changer for the creative economy, impacting the entire creative value chain and changing the way we communicate, create and work. The digital age has also led to a more complex ecosystem with new large tech players, such as Google, Netflix and Amazon, entering the market.

COVID-19 acted as an accelerator to foster wider recognition of the economic weight of the cultural sector.

As Paul Romer Economics Nobel laureate famously noted in 2004, "A crisis is a terrible thing to waste." Pandemic as such has alternatively been used as a motto for reforming the systems of government, science, economic outlook, social and cultural comfort zones and consumerism.

To face these challenges, technological innovation can be crucial to boost policies not only on poverty reduction and extreme hunger eradication, access to clean water, improve farming, educations, waste management, transportation and health, but also, IT could be an essential help to creativity and cultural industries.

Adopting digital economy based on rapid advances in artificial intelligence, and other emerging technologies such as the Internet of Things (IoT), robotICs, biotechnology, nanotechnology andquantum computing, could change the production of food, goods, services, and the labor market dramatically.

The pandemic crisis has given us a glimpse of the future, in which doctors COULD treat patients in another country by video conference call, teachers provide remote instruction to students studying from their homes, and engineers could send design files to 3D printers to replace or modify parts, such as those used in ventilators. As the crisis continues, the inevitable shift toward digital services will be accelerated.

The unprecedented disruption by COVID-19 is accelerating the urgency for agility, adaptability and transformation. Industry structures and business models are being disrupted – and the digitalization of the economy is being rapidly accelerated.

Notable among all, four technologies are key to the future of the creative economy. Augmented reality, virtual reality, artificial intelligence and block-chain will, for better or for worse, collectively and fundamentally disrupt how we produce and consume content in the creative economy.

Digital technologies promises many solutions; some are already evident in daily life, working from home, making shopping easy, allowing people to connect with friends, share information, and build their own start-ups.

Despite these, there is a darker side to these dynamism and advancements. For fact, we do not yet know just how it will unfold but, its scale, scope, and complexity will inevitably force transformation unlike anything humankind has experienced before.

It will fundamentally alter the way we live, work, and relate to one another and these possibilities will be multiplied by emerging technology breakthroughs in fields such as artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing. Yet, these rapid expansions of digital advancements could soon face significant challenges. Taking into account that an estimated 70 percent of new value created in the economy over the next decade, will be based on digitally enabled platform business models, the stumbling blocks will be presented by 47 percent of the world's population who remain unconnected to the Internet and unable to support and use these facilities. As a result, the existing divide between the haves and have not will grow deeper and it could lead to backwardness and under performances, income disparities, poverty and unemployment among those countries who require further investments and are unable to catch up.

Fear of the arrival of a "Weaponised' AI" that can manipulate us without our knowledge through spreading propaganda influencing our important decisions, such as how to elect and who to vote for (the case in mind is the recent US Presidential Election) could erode the necessary trust for advancement of digital economy and could give rise to uneasiness. Digital "monopoly" could also lead to concerns about data privacy, ownership and security.

A winner-takes-all economy offering only limited access to the middle class is a recipe for democratic malaise and dereliction.

Today's decision-makers, however, are too often trapped in traditional, linear thinking, or too absorbed by the multiple crises demanding their attention, to think strategically about the forces of disruption and innovation that is shaping our future. We need to shape a future that works for all of us by putting people first and empowering them to face the upcoming challenges of the future.

新业态、新产业、新商业模式：数字文化产业一个政策文本的分析

张晓明分析了新产业、新业态和新商业模式的"三新"政策，指出文化领域的"三新"政策具有逻辑上的层层递进的关系，揭示了数字文化产业高质量发展的逻辑。"中国近年来政府在数字文化产业发展方面发生了巨大的变化，很多新的现象都是以前我们所完全没有接触过的，都是全新的问题。正是需要加强在此领域的研究，一些传统的政策模式和概念应该在新的环境下发生什么样的变化，这应该是我们所关注的。"

张晓明（Zhang Xiaoming）

创意中心咨询委员；
中国社会科学院中国文化研究中心副主任
Member of ICCSD Advisory Committee;
Vice Director of China National Center for Culture Studies of Chinese Academy of Social Sciences (CASS)

近年来，新产业、新业态、新商业模式（简称"三新"）是一个政策性的"热词"，现在已经延伸到数字文化产业政策领域，值得关注和加以研究。

"三新"政策的提出过程

"三新"最早是 2015 年 5 月习近平总书记在视察浙江时提出的，即"要加快提升传统产业，着力提升战略新兴产业，积极培育新业态和新商业模式，构建现代产业发展新体系"。

2018 年，为科学界定"三新"，满足统计上监测"三新"经济活动规模、结构和质量等需要，国家统计局制定了《新产业新业态新商业模式统计分类（2018）》。至此，"三新"政策具有了统计依据。

从 2017 年到 2020 年，国家文化旅游部连续发布了两份重要文件，分别是《关于推动数字文化产业创新发展的指导意见》、《文化和旅游部关于推动数字文化产业高质量发展的意见》。前者首次明确提出了"数字文化产业"这一全新政策概念，指出数字文化产业已成为文化产业发展的重点领域和数字经济的重要组成部分，并从总体要求、发展方向、重点领域、建设创新生态体系、以及加大政策保障力度等方面进行了全面描述。后者着眼于"高质量发展"，提出了六大"发展基础"，八大"新型业态"，五大"产业生态"，首次将"新业态"置于数字文化产业政策的核心位置。这两份文件表明，围绕以"新业态"为核心的"三新"政策体系已经形成。

关于"三新"政策的几点解读：

"三新"政策是"高质量发展"这一大主题下的重大举措

2017 年，中国共产党第十九次全国代表大会首次提出"高质量发展"的表述，表明中国经济由高速增长阶段转向高质量发展阶段。高质量发展根本在于经济的活力、创新力和竞争力。而"三新"是经济发展的活力、创新力和竞争力的集中表现。

"新产业"指应用新科技成果、新兴技术而形成一定规模的新型经济活动，具体表现为新技术应用产业化直接催生的新产业、传统产业采用现代信息技术形成的新产业等；"新业态"指顺应多元化、多样化、个性化的产品或服务需求，依托技术创新和应用，从现有产业和领域中衍生叠加出的新环节、新链条、新活动形态，具体表现为以互联网为依托开展的经营活动等；"新商业模式"指为实现用户价值和企业持续盈利目标，对企业经营的各种内外要素进行整合和重组，形成高效并具有独特竞争力的商业运行模式，具体表现为将互联网与产业创新融合、把硬件融入服务、提供消费、娱乐、休闲、服务的一站式服务等。

文化发展领域"三新"揭示了数字文化产业高质量发展的逻辑路径，其中"新业态"可以看做是数字文化产业发展的"新边疆"。

文化领域的"三新"具有在逻辑上层层递进的关系，揭示了数字文化产业高质量发展的逻辑路径。首先是"新业态"，即因新需求而出现新的活动形态；然后是"新模式"，即这种新的活动形态在企业组织层面完成要素整合，固化为有独特竞争力的商业闭环；最后是"新产业"，可以理解为具有新模式共同特征的企业形成集群，显示出新型产业特征。新业态居于最前沿，是新产业的最早表征，也就是数字文化产业发展的"新边疆"。

沿着"三新"的政策逻辑，可以研究数字文化产业高质量发展的具体路径

首先，"文化新业态"不是传统"消费业态"的"窄版本"概念，而是一个包含全产业链的"宽版本"范畴，因此可以成为高质量发展研究的起点。

其次，从文化新业态到新商业模

ICCSD 创意2030研讨会   ICCSD 创意2030研讨会

式需要极大提升企业经营能力和水准，需要实现企业的稳定经营和持续的营利，需要有可复制的模式。新业态往往是不稳定的，是旋生旋亡的。新业态具有活泼的生命力，富含创意思维与探索性，但是却有一定的风险。因此从新业态到新商业模式是一次企业层面的"危险的跳跃"。

第三，从新商业模式到新产业是商业经营模式的成功复制，是同类的企业形成集群和集聚，是走向特定的产业门类的过程。

需要进一步研究的问题

"新业态"能不能以政策干预的方式加以"支持"？对于文化创意产业领域的发展而言，一个高度开放竞争和包容的市场应该是最基本的，如果市场尚不完善，我们以什么方式加以支持？

新技术大规模商用的早期也是产业升级的机遇期，为了抓住机遇，或许政策性干预也是必要的，那么问题就是什么样的政策而不是要不要出台政策。

为了更好地对新兴产业加以引导，需要加强趋势预测研究，以科学预测支撑政策的落地实施。

中国近年来政府在数字文化产业发展方面发生了巨大的变化，很多新的现象都是以前我们所完全没有接触过的，都是全新的问题。正是需要加强在此领域的研究，一些传统的政策模式和概念应该在新的环境下发生什么样的变化，这应该是我们所关注的。

New Business Forms, New Business Models and New Industries: Analyzing a Policy Text Centered on Digital Culture Industries

Zhang Xiaoming, Member of ICCSD Advisory Committee and Vice Director of China National Center for Culture Studies of Chinese Academy of Social Sciences (CASS), analyzed the "three-new policy" comprised of "New Industries, New Business Forms, and New Business Models". He pointed out that the "three-new policy" in the cultural field showed the logical order of precedence, the logic for promoting the high-quality development of digital cultural industries. "In recent years, great changes have taken place in the development of China's digital cultural industries. A lot of new phenomena and problems appear strange to us since we have never dealt with them before. It's time to deepen the research in such fields, and we must pay close attention to how the traditional policy models and concepts should adapt to the new context."

In recent years, the "three-new policy", namely "new industries, new business forms, and new business models" has become the buzzword. Now it has also been applied to the digital culture industries, and the deeper connotations are waiting to be further explored.

Initiation of the "three-new policy"

The "three-new policy" was initiated by General Secretary Xi Jinping when he was inspecting Zhejiang Province in May, 2015. He was quoted as saying: "We must accelerate the upgrading of traditional industries, focus on promoting strategic emerging industries and vigorously cultivate new business forms and business models to build the new development system of modern industries."

In 2018, the National Bureau of Statistics formulated the 2018 Statistical Classification of New Industries, New Business Forms and New Business Models, in order to provide the accurate definition of the "three-new policy" and better supervise the scale, structure and quality of related economic activities. By then, the "three-new policy" had come into force with the statistic guidance.

From 2017 to 2020, the Ministry of Culture and Tourism has consecutively issued two important documents, namely the Guidelines on Promoting the Innovative Development of Digital Culture Industries and the Opinions of the Ministry of Culture and Tourism on Promoting High-Quality Development of Digital Culture Industries. The former has, for the first time, presented the brand new policy concept of "Digital Culture Industries". It pointed out that the industries have become an integral part of culture and digital economy, and described in detail the overall requirements, development trend, key areas, innovative ecosystem building and stronger policy support. The latter highlighted "high-quality development" and pointed out "six major development foundations, eight major new business forms and five major industrial ecology systems", putting "new business forms" at the core of policies on digital culture industries for the first time. The two papers have showed that the "three-new policy" mechanism centered on "new business forms" has come into being.

Interpretation on the "three-new policy"

The "three-new policy", a major initiative echoing the theme of "high-quality development"

In 2017, the 19th Session of the CPC National Congress put forward the concept of "high-quality development" for the first time, showing that China's economy was witnessing the change from rapid growth to high-quality development. High-quality development fundamentally means the vitality, creativity and competitiveness of economic growth, which are fully represented by the "three-new policy".

"New industries" mean adopting new research results and emerging technologies to develop new forms of economic activities at a certain scale. They may be directly driven by the industrial application of new technologies, or evolve from traditional industries adopting modern information technologies. "New business forms" mean that new links, new chains and new activity forms are added to the existent industries and fields with the help of technological innovation and application after the diverse and personalized needs are met in the process of providing products or services. Specifically, they are represented by operation activities based on the Internet. "New business models" are highly efficiently and specially competitive after businesses integrate and restructure the various inner and outer elements of operation in order to create value for the users and continuously make profits. In today's society, the one-stop services are among the most competitive and efficient models since they integrate the Internet with industrial innovation, and hardware with services, and meet the needs for consumption, entertainment, leisure and services in various scenarios.

Promoting the high-quality development of digital cultural industries in the logical order of precedence, "new business forms" being the new frontiers

The "three-new policy" in the cultural field highlights a progressive logical relationship, and the high-quality development of the digital culture industries should be promoted in the logical order of precedence. "New business forms", new activity forms emerging with the new demands, should be the priority. "New business models", the specially competitive business models developed from the company organizers' element integration of the new activity forms, ranks second in terms of precedence. "New industries" are the last to take into consideration. They could be interpreted as the cluster of companies with the same features of new business models and unique industrial features. "New business forms" are the basis and precede "new industries" in evolution. Thus, they are recognized as the new frontiers in the development of digital culture industries.

Logic of the "three-new policy" offering specific methods of studying high-quality development of digital culture industries

First of all, "new cultural business forms" are not part of the traditional "consumption business forms" but a richer array covering the whole industrial chain. Hence, they could serve as the starting point for studying the high-quality development.

Secondly, the evolution from new cultural business forms into new business models requires the great improvement in business operation, soundness, continuous profit making and copiable models. In most cases, new business forms are unstable and experimental, thus appearing in one spiral and vanishing in another. new business forms boast great vitality, creativity and meaningful exploration, but they may also bring unpredictable risks. To some extent, the evolution means a "dangerous jump" for businesses.

Thirdly, the evolution from "new business models" into "new industries" symbolizes the successful copying of business operation models, the clustering of the same type of companies and reaching specific industrial categories.

Problems requiring further study

Can "new business forms" be "supported" by policy intervention? A highly open, competitive and inclusive market should be the foundation for the development of cultural and creative industries. How can we support the market when it is not yet perfect?

The early stage of large-scale commercialization of new technologies is also an opportunity period for industrial upgrading. In order to seize the opportunity, policy intervention may also be necessary. Therefore the question is what kind of policy is needed rather than whether to introduce policies.

In order to better guide the emerging industries, it is necessary to strengthen the trend prediction research and support the implementation of policies by scientific prediction.

In recent years, great changes have taken place in the development of digital culture industry. Many new phenomena are completely new to us and are all brand new problems. Therefore, we need to pay attention to the research in this field, focusing on the necessary changes of some traditional models and concepts against the new background.

20   21

数字技术促进文化交流与贸易

北京邮电大学交互技术与体验系统实验室副主任陈洪就文化交流和贸易所面临的挑战及数字科技带来等机遇进行了分享。他认为，通过数字化和远程传输的方式可以把文化遗产送到社区去，送到老百姓的身边。数字科技赋能了生产生活的各个行业，其中 IoT、物联网、5G 等技术更好地解决我们在文化和创意产业中遇到的各种难题。

陈 洪（Chen Hong）

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Chief Expert of Recommendation T.621 of ITU

文化交流与贸易所面临的跨地域传播挑战

全球有着丰富的文化遗产，是人类共同沉淀的精神内涵。我们生活的环境和文化背景之间有着非常大的差异，因此当我们跨地域参观文化遗产时，实现本地化的深刻理解是有困难的。这在某种程度上减少了文化产品的贸易活动，从而阻碍了文化和创意产业的发展，包括产业规模和价值的提升，这是我们面对的一个比较大的挑战。

文化遗产是世界文化多样性的核心载体，更多分布在它们原生的处所。大部分文化遗产是很难迁移的，虽然少量的跨地区的展览活动被组织起来，但是依然没有办法更多地去满足大家相互之间交流的需要。这种跨区域的展览的数量是不够的，因为实物的迁移速度往往慢于数字的传播。因此，从某种意义上来讲，它的组织效率是相对低下的。我们如何能够提供更多的机会让大家去交流，从而让创意产业的发展提供更多机会和可能性，这是我们面临的又一个挑战。

数字科技为文化产业带来哪些机遇

2012 年大数据被全球产业者所熟知，而且作为新的手段和方法被几乎所有的行业接受，提高了我们对数据的分析能力和运用能力。"数据是资产"的概念从而被提出。2016 年，人工智能开始大量地应用到产业活动中。2019 年，一个标志性的事件是 5G 开始在全球投入商用。这些都是数字技术的代表。IoT、物联网提出的时间比较早，但是真正由概念变为现实是从 5G 商用以后，物联网的实现需要非常大的网络的连接力度。虽然我们能够把一些电子设备和网络连接起来，但是那只是联系，往往没有达到我们所设想的"万物互联"的连接密度，5G 则提供了这样的可能性。数字技术在五六年时间迅速得到了广泛的应用，这些给我们解决文化、创意和产业的问题提供了很好的机会和方法。

举个简单的例子，2016 年，VR 设备开始出现，相关报道出现在《时代周刊》。此后，该技术进入了人们的视野。

数字技术呈现多头爆发态势
A trend of multi-point explosion in digital technology
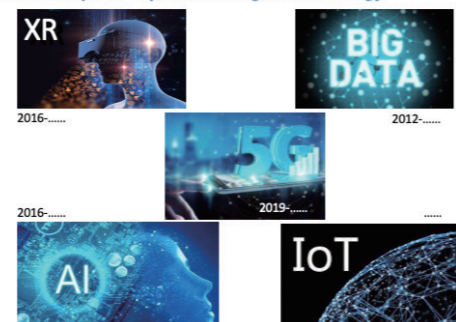
然而，2018 至 2020 年，互联网技术的发展经历了一个下滑的趋势。进入沉浸期以后，我们开始将新型技术与各行各业结合，沉浸式的数字技术，也逐步地从早期的实验室环境形态应用到了我们很多的现实场所中，开始为大众提供实质性的沉浸式的艺术体验。迈入精明期以后，进入到了实质性的产业操作阶段，很多技术促进了文化产业的发展。

2019年5G迎来试商用
In 2019, 5G ushered in commercial trial
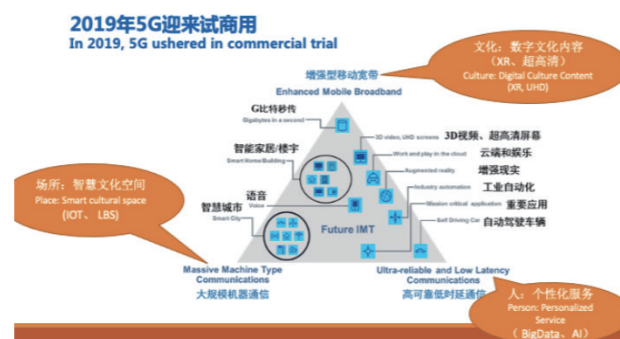
自 2019 年 5G 商用以来，5G 技术提供了更高速的带宽，提供了更强大的数据传输能力。它有三大特征，除了新型的增强型的移动宽带可以带来更强的数据传输能力以外，

它的大规模的技术通讯能力可以很好地构建智慧文化空间；它可以更好地去实现带有传感器阵列性质的智慧化的空间；它的低延时的通讯可以更好地实现伴随式的智能化服务，甚至可以支撑实时的、基于实时计算的自动驾驶，有效地支撑在文化场所中进行的一些个性化的技术。这是 5G 技术带来的新的技术变化，这些都可以被文化产业所用。

产学合作，数字文化，持续发展（北京邮电大学与产业合作为例）

案例一：文立方 - 社区文化空间

疫情以来，由于长距离的旅行活动受到了非常大的限制，文化旅游和文博行业受到了重大的影响。优秀的文化遗产并不能像过去一样服务大众。因此我们的一个思路和想法是，是否可以运用数字化技术，例如 5G、VR、全息等，通过数字化和远程传输的方式把文化遗产送到社区去，送到老百姓的身边。

文立方-社区文化空间
Culture Cube - Community Cultural Space

这是一个实验性的项目，过程中使用了大量的智能终端，我们把这些终端布置到线下，去制定文化资产、文化遗产的数字化标准。统一的标准被数字化了后，再传输到远程终端去，而这些终端连接起来的空间就在社区实现文化遗产在疫情下的广泛传播，而且发挥了它实际应该发挥的传承和传播的价值。

文化内容不是冷冰冰的，而是活的，要起到非常好的转化效应，需要非常多的终端设备表达它背后的文化内涵，采用适当的设备来呈现它。面对多形态终端的时候，我们怎么去构建统一的传输和表达标准？经过一些努力以后，我们看到了一个好的效果。受疫情的影响，人们的生产和生活习惯，已经发生了变化。因此博物馆里的资源或者是文化遗产的资源如果能通过运用数字技术被远程输送到各个社区的话，它也许能够变成今后的一个发展趋势和模式。

案例二：AR 博物馆

除了 VR 技术以外，还有一个非常典型的技术：增强现实，该技术可以充分应用到线下的一些场景，运用到博

AR博物馆
Augmented reality Museum

物馆，去更好地服务现实的博物馆。博物馆里面的文化资源非常多，文物和艺术品背后的故事需要恰当的表达形式才能更充分地表现出来。我们把一个包含了大量的文物和艺术品的大型壁画，通过数字技术把其背后的故事展现给大众。这是我们和中国移动合作而做出的一些尝试。我们通过专用的设备、软件和数字内容的创新来更好地服务线下，通过这样的方式，更有效地吸引公众到文化场所去参观，以便于人们更好地理解这些文化。

我们在中国的一所博物馆里面举办了一次关于玛雅文化的展览。这属于跨太平洋的文化交流，公众理解是有困难的。我们通过运用相关设备，通过增强现实技术，实时地去给大众讲解玛雅文化。这是数字技术赋能文化创意产业的一个具体表现。

旅游严肃游戏
Serious game for Tourism
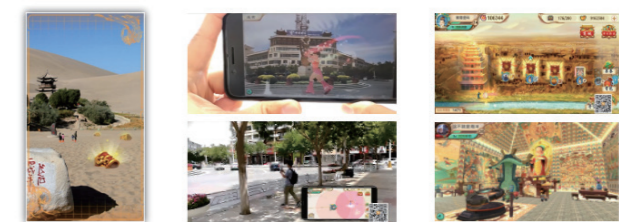
案例三：旅游严肃游戏

敦煌莫高窟是中国知名的文化遗产地，这个地方有非常美丽的沙漠景观，我们尝试地构建了一款网络游戏，让它能够在线上去复现莫高窟，去复现世界级的文化遗产，用这种方式让大家在旅行前产生对目的地的兴趣，进而到目的地实地参观。和过去网络游戏不同的是，这款游戏带有很强的目的性，其中一部分功能可以在线上完成，另外一部分的功能是需要到指定的实体的位置去才能完成，因此有比较强的引导性。我们把它称之为"严肃游戏"，用它来服务旅游业。疫情终究是要过去，过去以后我们面对的一个非常大的现实问题就是旅游行业如何复苏。数字化的网络游戏有很强的用户导流能力，我们想以此助力旅游业的疫后复苏。

数字技术作为手段，采用富有创造性的方式方法，尤其是交互式的体验的方式方法，来推广创意产品，促进文化传播。

Digital Technology Promotes Cultural Exchanges and Trade

Chen Hong, Deputy Director of Interactive Technology and Experience System Laboratory, Beijing University of Posts and Telecommunications, expressed his views on the present challenges facing cultural exchanges and trade growth, as well as opportunities brought by the digital technology. He deemed that digitalization and long-distance transmission could bring cultural heritage to the communities, closer to the folks. Digital technology had empowered all the parts of our life and production. Notably, technologies including Internet of Things and 5G had helped us better deal with various problems in developing the cultural and creative industries.

Cultural Exchanges and Trade Facing Cross-Regional Promotion Challenges

The globe boasts plenty of cultural heritage which represents the spiritual connotation of mankind. The environment we live in and our cultural background vary to a great extent, thus it is difficult for us to get a deep understanding of local cultural heritage when we pay a visit to the cultural heritage from a cross-regional perspective. This has, to a certain degree, reduced the number of trade activities about cultural products, hence impeding the development of cultural and creative industries in terms of limiting the scale and value improvement of the industries. This is a major challenge facing us now.

Cultural heritage is the core carrier of global cultural diversity. Most of them remain in their places of origin, and it proves hard to transfer them to other regions. There may be a few cross-regional exhibitions, but the public requires better chances to exchange with each other. Such exhibits are inadequate in number since the transfer of objects is too often slower than digital promotion. Thus, in a sense, the organizing efficiency is relatively low. Another challenge facing us is how to provide more chances for exchanges and in turn, offer more opportunities and open up more possibilities for the development of cultural and creative industries.

Opportunities Digital Technology Provides for Cultural Industries

In 2012, big data became familiar to the global industrialists. As the new means and method, it has been accepted by almost all industries and improved our capacity for analysis and use of data. Then the concept "data are assets" was brought up. 2016 witnessed the application of AI to industrial activities on a grand scale. In 2019, a landmark event was the global business adoption of 5G. These are all representative examples of digital technology. The concept of Internet of Things (IoT) appeared at an earlier time, but the technology did not come into full use until business thoroughly adopted 5G since the utilization of IoT requires an extremely powerful Internet connection. We may be able to connect some electronic devices with the Internet, but such a connection pales in comparison with the connectivity of all the things that we have imagined. Such imagination has turned into a reality with the help of 5G. In just five or six years, digital technology has rapidly witnessed widespread application, providing favorable opportunities and methods for us to solve the problems related to

the development of culture, creativity and industry.

VR devices started appearing in 2016 and relevant reports were published on Time. Ever since then, the technology has gradually become familiar to us. From 2018 until 2020, however, Internet technology showed slower growth. In the period of immersive trials, we started integrating new technology with various industries, and immersive digital technology experimented in laboratories was gradually adopted into many real-life scenarios, providing substantially immersive art experiences for the masses. In the period of extensive application, the practical industrial operation witnessed that a variety of digital technologies promoted the growth of cultural industries.

Ever since the business adoption of 5G in 2019, such technology has offered quicker broadband services and showcased more powerful data transmission. It has three major features. Firstly, the new type of enhanced mobile broadband can improve data transmission. Secondly, its large-scale technical communication will contribute to the building of the smart cultural space, especially the smart space with sensor arrays. Thirdly, its low-latency communication provides better accompanying smart services and even supports the real-time automatic driving based on real-time computing, thus ensuring the utilization of some personalized technologies in cultural venues. These are new technological changes brought about by 5G, and all the new technologies could be applied to cultural industries.

Industry-Academy Cooperation, Digital Culture and Sustainable Development (based on the examples of cooperation between industries and Beijing University of Posts and Telecommunications)

Case 1: Cultural Cube—Community Cultural Spaces

Since the outbreak of COVID-19, strict limits have been set on long-distance tourism. Cultural tourism and cultural expos have been significantly affected. Brilliant cultural heritage cannot continue to serve the public, so we have assumed whether digital technology like 5G, VR and HoLo could, by digitalized and long-distance transmission, bring cultural heritage to communities, closer to the folks.

This is an experimental project employing a large number of intelligent terminals. We can set those terminals offline and formulate digitalized standards for cultural assets and heritage.

After the uniform standards are digitalized, we will transmit them to remote terminals. Then the spaces connected by the terminals will widely promote cultural heritage in communities amidst the pandemic and perform their due functions of promotion and inheritance.

Cultural content is not lifeless but full of vitality. To make its translation the most effective, we need a large number of terminal devices to show the hidden cultural connotations and we shall utilize appropriate devices to present the cultural content. When facing the multiple forms of terminals, how should we formulate uniform transmission and presentation standards? We have done a lot and finally, our efforts have paid off. The pandemic has already changed our production and habits in everyday life. Against this background, the resources in museums or of cultural heritage can be sent to all the communities by the long-distance transmission of digital technology. This gives us a glimpse of future developmental trends and models.

Case 2: AR Museums

In addition to VR, AR is another great example of digital technology. AR could be fully applied to some offline scenarios. They could be adopted by museums and better serve such cultural venues in real life. Museums boast a variety of cultural resources, and the full presentation of stories about cultural relics and artworks relies on appropriate methods. We have cooperated with China Mobile to hold a grand mural exhibition covering plenty of cultural relics and artworks, telling their stories to the public with the help of digital technology. We provide better services offline by using specific equipment and software as well as creative digital content. Such methods will more effectively draw the public to cultural

venues and enable them to get a better understanding of relevant culture.

Besides, we have held an exhibition in China centered on the Mayan Culture. Since the cultural exchange was conducted across the Pacific, the public naturally found it hard to get a deep understanding. Then we adopted relevant equipment and AR to provide a real-time presentation of the Mayan Culture, and such methods have helped the visitors learn more about the ancient civilization. This example has fully shown how digital technology advances cultural and creative industries.

Case 3: "Serious Tourism Game"

Dunhuang Mogao Grottoes is a well-known cultural relic site in China with an impressive view of deserts. We tried creating an online game that was able to reproduce the image of Mogao Grottoes, a world-class cultural asset. In this way, we could stimulate great interest in destinations before the travelers set out, and then more were likely to pay a visit offline. Different from traditional Internet games, this game showed strong purposiveness and particularly led the players to pay a real-life visit since some functions could be performed online while others required traveling to specific destinations. It was called the "Serious Game" and helped enhance tourism growth. The pandemic is sure to end sometime, and a major real-world problem facing us afterwords is how to promote tourism recovery. In this case, digital Internet games which attract a great number of users may provide a good solution.

In all, we will, based on digital technology, adopt creative methods, especially methods enabling interactive experiences, to promote creative products and culture transmission.

让创意产业参与到城市建设中

阿尔伯特·福斯特从教育的角度分享了观点。他说，疫情让全球的教学工作转移到了线上，人们应该及时适应这一种变化。他建议学校不应该闭门造车，应该跟外界有更多的互动，通过运用数字技术来发展数字化教育，推广即时性的学习。


阿尔伯特·福斯特（Albert Fuster）
西班牙巴塞罗那 ELISAVA 设计与工程学院学术主任
Academic Director of ELISAVA Barcelona School of Design and Engineering, Barcelona, Spain

"未来就是现在"——"即时性"在创意学科教育中的体现。

2020 年发生了许多事情，人类日益地体会到一种"即时性"。如今，我们面临着多种新挑战。这些挑战不仅关乎我们人类自身和伦理道德，还乎整个社会和地球家园。我们的任何行为都会影响到社会、经济、伦理和所处的环境。对于年轻一代来说，未来并不总是充满前景。我对未来持批判的态度，我想让学习体验作为一种与世界建立即时性联系的方式，来更好地面对新的挑战。

Online teaching
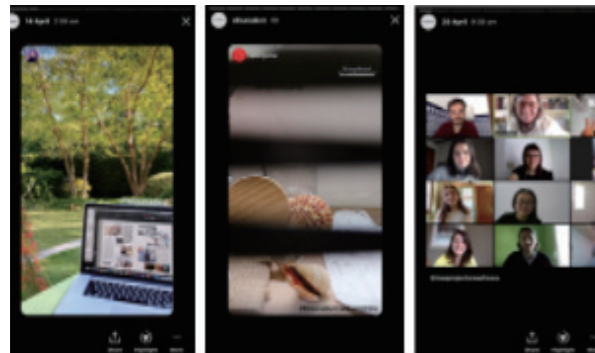
新冠肺炎疫情的暴发使全球几乎所有的学校都尽可能地转向了线上教学。我在巴塞罗那，通过线上方式参加了本次研讨会，我也通过这种方式参加了很多其他会议。维护城市间沟通和联系的平衡是尤为重要的。随着线上教学工作的展开，我想强调学生和教工的高度适应性，这与线上教学工作息息相关。我们总是对突如其来的变化避之不及。过去，我们都听说过线上教育和线上会议，但新冠肺炎疫情的发生让我们不得不采取相关行动。值得注意的是，所有的社区都能适应这一变化。

+ High adaptability
by students and faculty
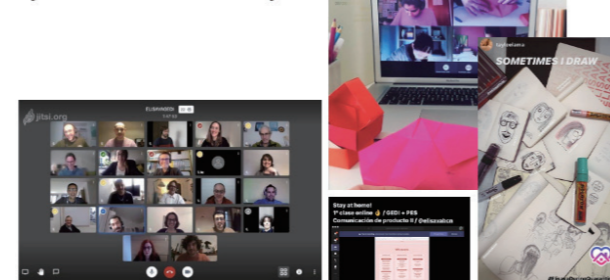
保持人们在电子屏幕、数字媒体和现场交流之间的平衡也很重要。在疫情封锁期，我们必须要让全世界的人们明白通过屏幕我们并不能了解所有的事情。我们需要融入确切的环境之中，并关注出现的问题。过去，我们认为学习和教育是抽象的，两者间关联性低，与我们的日常生活并无直接联系。而新冠肺炎疫情的暴发表明，教育机构、学生和教员与世界发展形势是息息相关的。与社区的关系亦是如此。数字技术和数字媒体增强了人们的社区归属感和身份认同感，并且让人们在危机时刻产生共鸣。

希腊有两位代表时间的神。第一位是柯罗诺斯（Chronos），他代表客观的、抽象的时间，是时序的象

+ Community actions

Public Protest Poster
Prof: Raúl Goñi

征。第二位是卡俄斯（Cronos），代表更为定性的时间，流动的时间，这与"机会"这一概念更相关。几个月以来，我们了解到我们无需对时间、学习和互动过程的先后顺序过于担心。我们应该更多地体会并接受一种机遇感，加强彼此间的交流、同时举办更多的会议和项目。

如何让教育和创意产业与世界保持互动？这是一个从抽象到具体的问题。首先，我们需要了解到我们无需丢弃此前在机构、工厂等所收集的信息、资源和数据，也无亲自实地考察。数字技术把我们与这些问题紧密联系到了一起，这意味着我们可以不亲赴现场，数字技术通过软件将所有人、信息和数据联系起来，完全能够满足我们的需求。

巴塞罗那在疫情发生并封锁前就提出了如何让创意产业主动参与到城市建设中，并加入到城市抗疫一线。城市间的互动越多，社会就会变得越好，在过去的几个月里，我们已经看到了城市互动的次数因数字技术而得以增加。通过这种方式，我们可以在任何地方开展项目，组织研讨会，邀请各地的人们参与其中。在紧要关头，我们在线上和线下之间获得了关键性的平衡。

多年来，我们一直致力于分布学校。我们提出学校是发展引擎，将带来改变，并要与利益攸关方、环境和社区等建立直接联系。所以校园延展这一想法十分重要，尤其是针对非洲国家。从五年前开始到现在，我们与塞内加尔的工匠和设计师合作并开展项目。学生仅仅坐在教室中不会带来什么改变的，但来到可以付诸实践的地方，如塞内加尔、纽约现代艺术博物馆、德国阿迪达斯的MakerLab 等情况却是不同的。

教育和创意产业需要真正意识到他们不仅仅要在所在社区内，还要在其他社区及全球实现意义构建。"即时性学习"不仅是一个时间范畴，还关乎想法与行动之间、个人与环境之间的直接联系，并不需要其它媒介。"即时性学习"使学校里的创意想法不再是"空中楼阁"，不再与世界隔绝，其创新要与世界融合。重要的是，所有的教员和学生无需任何媒介，直接与利益攸关者合作，包括非政府组织、公司、代理机构和社区中心等。线下和线上之间已形成了一种平衡。我们也看到更多有素质的观众能够参与到活动与项目中，这意味着公司的 CEO 与学校仅仅几步之遥，或美国某重要产业的 CEO 也能参与到活动展示和项目中，使整个进程更加完善，从而得到更为灵活的反馈并加速其发展进程。

我们在 ELISAVA 学院与世界范围内的产业和利益攸关者开展了很多合作。这些项目开展后，我们将开始思考下一步计划。数字技术让这一进程与反馈更具灵活性，也更快速。我们需要知道数字技术意味着什么。数字技术是我们人类设计并应用到现实生活的。我们应该对此持有一种批判态度，保持思想的开放，同时也要具有批判性。我们的目标是在数字技术的帮助下，个人及社区能够在新环境中有序发展，我们要共同为之共同努力。

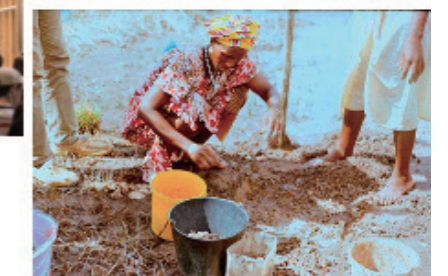## Extended Campus

Ceramic School La Bisbal, Spain

Adidas Maker Lab, Germany

Route, Senegal

Design for City Making, Spain

Salone del Mobile Milano, Italy

Eurecat Resarch Center, Spain

Moma New York, USA

...

Integrating City Development with Creative Industries

Albert Fuster, Academic Director of ELISAVA Barcelona School of Design and Engineering, Barcelona, Spain, shared his views from the perspective of education. He said the pandemic forced the global education activities to be conducted online and that the changes should be embraced in a timely manner. He suggested that schools should stay open-minded and interact more with the outside world. They could, with the help of digital technology, develop digitalized education and promote just-in-time learning.

"The future is now"--"immediacy" in creative subject education

Many things had happened in the last year that have increased a sense of immediacy. Currently, we are facing multiple new challenges that deal not only with ourselves and with ethical concerns but also with society as a whole and with the planet. Any of our actions have these social, economic, ethical, and environmental impacts. Future right now for youngsters may not always be promising. So I am critical of our future. I hope that the idea of the learning experience can become a model to build immediate links with the world so as to better deal with these new challenges.

The outbreak of COVID-19 has moved almost all schools in the world to online teaching as more as possible. I'm now in Barcelona, participating this seminar online, just like participating other online meetings. Maintaining the balance of inter-city communication and contacts is of great importance. The high adaptability of students and faculty is really relevant with online teaching. Because we are sometimes excessively scared of changing. However, the pandemic forced us to take actions. Remarkably, all communities were able to adapt to this change.

It is also very important to keep the balance among digital screen, digital media and onsite contact. During the lockdown period, we need to push people to understand that not everything was happening inside the screen. We need to be involved in specific environment and pay attention to arising problems. We are so used to understand learning and education as an abstract and isolated moment in life which is not connected directly with each other. And it has no direct connection with our daily life. The outbreak of the pandemic has shown that how educational institutions, students, and academic staff can be part of what is happening in the world. And this also happened in its relations with the community. Digital technologies and digital media help to increase the sense

of community, the sense of identity and the need for empathy we all had in such problematic moments.

It is known that Greece had two gods for time. The first was Chronos that is related to the objective, abstract, and chronological interpretation of time. And the other one is Cronos that is much more qualitative time related to a sense of flow and strongly linked to the idea of opportunity. After these months, we all learn that we shouldn't be that worried about the chronological understanding of time, learning, and interactions, and we need to be more open to the sense of opportunity, increasing interactions and holding more meetings and projects.

How education and creative industries can interact with the world? And this is a problem from abstraction to concretion. I think that first of all, we don't have to renounce the information, resources, data that we collected in institutions and factories, rather than paying an onsite visit. Digital technologies have allowed us to get these things closer. And that means that we don't need to be onsite. Thanks to digital technology, all people, information and data are connected, fully meeting our demands.

Barcelona put forward the solutions on creative industries actively participating in city development before the lockdown, and it also became the front line against the pandemic. The more cities interact with each other, the better society becomes, and over the past few months we've seen the number of urban interactions increase thanks to digital technology. In this way, we can launch projects anywhere, organize seminars and invite people everywhere. At this critical juncture, we have achieved a critical balance between online and offline.

We have been working for years on distributed school. We put forward the idea that the school is an engineer of development, which will lead to changes. Distributed school should establish direct links with sake holders, the

environment and communities. So the idea of extend school is really important, especially for African countries. Starting five years ago, we have been working on projects with Senegalese craftsmen and designers. There is nothing that can happen inside a classroom, but it will be different in many other places as I said in Senegal, in the Moma in New York, or in the Adidas Maker Lab in Germany.

It is really important to understand that education and creative industries have to be really aware that they should be developed not only inside their communities but to other communities and to the whole planet. And immediate learning is not only a term of time. It is also related to the direct links between ideas and actions and between individuals and the surroundings. It doesn't need other media. Immediate learning means the school is no longer an isolated innovator apart from the world. All academic staff and students can work directly with any stakeholders, including NGOs, companies, agencies and community centers, which is really important. So there has been an online-onsite balance. We have also seen how bigger and higher quality audiences have been able to get into events and projects. And that means that maybe a CEO from an industry only ten meters on foot from the school or the CEO of the real important industry in the US has been able to get into the presentation, to get into the project. And this has improved the whole process and therefore got a more agile feedback and faster processes.

We have cooperated with industries and stakeholders in the world at ELISAVA. And we have began to think about next step after the launch of the project. Digital technologies have increased the agility and the speed of these processes and the feedback. We have to be aware of what that digital technologies mean. They have been designed and applied by people. So I think we have to be open-minded but also critical. Our goal is that individuals and communities can perform properly in this new environment with the help of digital technologies. This needs our joint efforts.

新文创营造了一个有创意有活力的创意生态

李士林分享了腾讯推出的"新文创战略",他表示,腾讯新文创孵化了许多新的业态和商业模式,覆盖了文学、动漫、影视、音乐、电竞、游戏等领域,营造了丰富多元且有创意和活力的创意生态。比如与故宫推出数字化APP,与敦煌研究院展开"云游数字新丝路"合作,通过数字技术新文创融合了历史和现代,有利于更好地保护和发展传统文化。腾讯希望与政府和社会各界一道共同合作来消除数字鸿沟,减少数字贫困。

李士林（Li Shilin）

腾讯研究院社会研究中心研究员
Senior Researcher of Tencent Social Research Center (TSRC)

四年前腾讯推出"新文创战略",希望以 IP 构建为核心,推动商业价值和文化价值的良性循环,打造具备全球影响力的中国文化。同年,腾讯在新华社智库发布了新时代互联网发展趋势报告,报告提到新文创是文化领域的一个重要的趋势,影响了文化产业发展的趋势和模式。

新文创营造了一种互联互动、共创共享的跨媒体的创意生态和文化生态

新文创的发展营造了一种新的生态,即互联互动、共创共享的跨媒体的创意生态和文化生态。数字技术的发展使人们更加方便地进行创意创作,模糊了专家和普通用户的界限,如腾讯推出的阅文平台。作为阅文平台的一名用户,我想谈一下数字技术对创意、对文化、对创造者的一些影响。

新文创电子平台具备的共享和共创特性。用户在阅文平台上阅读网络文艺作品时,可以随时对作品进行实时反馈,作者收到反馈后,可以以此调整自己的写作方向。该平台不仅使作者可以与读者进行更好的互动,也将读者的知识融入到文化和文学作品的生产过程中,有助于提高作品的质量。这种交互共创营造了一个丰富多元的、有创意、有活力的创意生态。

新文创通过激发更多的用户参与创意过程来培育新业态、新的商业模式

新文创更好地融合了历史和现代,传承和保护了优秀传统文化。其目标之一是要通过数字技术将传统文化与当代的年轻人联系起来,滋养当代年轻人的世界。

腾讯与敦煌研究院合作的"云游数字新丝路"项目,把传统的敦煌带到日常生活中,让其更好地走进年轻人的生活。与此同时,腾讯使用现代数字和传媒技术,通过 AI 技术修复

敦煌壁画,来更好地保护文物和传承优秀传统文化。

"新文创战略"通过激发更多的用户参与创意过程,培育新业态、新的商业模式。新冠肺炎疫情期间,网上博物馆和数字博物馆运用虚拟技术,让用户真正地去参观博物馆,也是新文创的案例。

推动新文创的发展,也存在数字鸿沟与数字贫困的问题,这就需要政府、企业及社会各界一同参与推动消除数字鸿沟,来减少数字贫困。

Neo-Culture Creativity Builds a Creative Ecosystem Full of Creativity and Vitality

Li Shilin, Senior Researcher of Tencent Social Research Center (TSRC), shared Tencent's strategies for "Neo-Culture Creativity". He remarked that such strategies had given birth to many new forms and business models covering literature, animation, film & television, music, e-sports, games and other areas, building a variety of creative ecosystems full of creativity and vitality. For example, Tencent had launched the digital App together with the Palace Museum and conducted cooperation with Dunhuang Academy China on the project of "Virtual Tour of the New Digital Silk Road". With the help of digital technology, Neo-Culture Creativity had integrated both the ancient and modern elements, helping preserve and develop traditional culture. Tencent would work together with the government and all the other stakeholders to close the digital divide and reduce digital poverty.

Four years ago, Tencent unveiled the strategies for "Neo-Culture Creativity", hoping to, based on IP building, promote the virtuous cycle of business value and cultural value as well as improve the global influence of Chinese culture. In the same year, Tencent published the Report on Internet Development Trends in the New Era in the think tank of Xinhua News Agency. The report mentioned that "Neo-Culture Creativity" was a crucial trend in the cultural field and had influenced the development trends and models of cultural industries.

Neo-culture creativity builds a cross-media creative and cultural ecosystem featuring all-encompassing connectivity, joint creation, and sharing.

Neo-Culture Creativity has built a new cross-media creative and cultural ecosystem featuring all-encompassing connectivity, joint creation and sharing. The growth of digital technology has greatly facilitated creation. In this context, ordinary users have access to the same channels as experts as long as they have creative works or ideas to share. The platform of China Literature established by Tencent is a good example of such facilitation. As one of the users of the platform, I would like to share my views on how digital technology influences creativity, culture and creators.

The electronic platforms of Neo-Culture Creativity are characterized by sharing and joint creation. Users can, when reading Internet literature works on China Literature, offer their real-time feedback on the works at any time. Authors can, after receiving the feedback, adjust their writings accordingly. The platform has not only enhanced interaction between authors and readers but also integrated readers' knowledge into the production of culture and literature works, thus helping improve the quality of writings. Such favorable interaction and joint creation have built a creative ecosystem full of creativity and vitality.

Neo-culture creativity fosters new business forms and new business models by encouraging more users to participate in the creative process.

Neo-Culture Creativity has, by integrating history with the present, promoted the inheritance and preservation of the fine parts of traditional culture. One of its major goals is to enable the contemporary youths to learn more about traditional culture with the help of digital technology, nourishing today's young people.

Tencent has cooperated with Dunhuang Academy China to develop the project of "Digital Tour of the New Silk Road on Cloud", bringing the traditional culture of Dunhuang into everyday life, closer to the contemporary youth. Moreover, the company has adopted modern digital and media technologies, AI technology, in particular, to restore the Dunhuang frescoes, trying to better protect the cultural relics and inherit the fine parts of traditional culture.

The strategies for "Neo-Culture Creativity" are intended to foster new business forms and new business models by encouraging more users to participate in the creative process. Amidst the COVID-19 pandemic, online and digital museums have employed VR technology to help users make a virtual tour of the cultural venues, which is a good example of "Neo-Culture Creativity".

However, the development of Neo-Culture Creativity also faces problems of digital divide and poverty. In this case, the government, enterprises and all the other stakeholders shall work together to bridge digital divide and reduce digital poverty.