ICESCO

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13

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Ministry of Culture

3.3 ICESCO'S INDEX FOR CULTURAL AND CREATIVE TECHNOLOGIES

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1. INTRODUCTION

1.1. Background and objectives of the ICESCO Index for Cultural and Creative Technologies

In an increasingly interconnected and digital world, cultural and creative technologies play a critical role in the socio-economic development of nations. Recognizing this reality, the Islamic World Educational, Scientific and Cultural Organization (ICESCO) has launched the ICESCO Index for Cultural and Creative Technologies initiative. This innovative index aims to measure and compare the performance of Islamic countries in this strategic area, while identifying levers for progress and best practices.

The ICESCO Index is part of the organization's efforts to promote creativity, innovation and cultural diversity in the Islamic world. It responds to the need for a reliable, standardized tool to inform public policy and development strategies in the field of culture and creative technologies.

The main objective of the Index is to provide decision-makers, practitioners and researchers with a comprehensive and up-to-date picture of the state and dynamics of cultural and creative technologies in ICESCO Member States. It aims to catalyze the exchange of experiences and partnerships, encourage targeted investments, and promote creative entrepreneurship and the employability of young talent.

1.2. Importance of cultural and creative technologies for the development of Islamic countries

Cultural and creative technologies are a powerful driver of sustainable and inclusive development for Islamic countries. They are at the crossroads of art, science, and digital technology. A recent study by UNESCO's Regional Office in Beirut found that cultural and creative industries account for an average of 3.1% of GDP and 2.5% of jobs in Arab countries (UNESCO, 2022). This sector has enormous potential for value creation, economic diversification, and international influence.

Cultural and creative technologies have an important role to play beyond their economic impact. They contribute to the preservation and enhancement of heritage, intercultural dialogue, and social cohesion. They foster the emergence of knowledge societies by stimulating creativity, critical thinking, and innovation. Hissein Brahim Taha, Secretary General of the Organization of Islamic Cooperation (OIC), is clear: "culture and creativity are essential pillars for building peaceful, prosperous, and resilient communities" (OIC, 2022).

2. DEFINITION AND SCOPE OF CULTURAL AND CREATIVE TECHNOLOGIES

2.1. Definition of key concepts

Before we dive into the ICESCO Index for Cultural and Creative Technologies, it's crucial to understand the core concepts behind this initiative.

Cultural and creative technologies are defined as all digital tools, techniques, and know-how applied to the creation, production, dissemination, and consumption of cultural goods and services (UNESCO, 2018).

They encompass a wide range of fields, from the visual and performing arts to the film, music, book, and video game industries, as well as design, crafts, heritage, and cultural tourism.

The term "cultural technologies" focuses on technological innovations that enable the preservation, enhancement, and transmission of tangible and intangible heritage. This includes 3D digitization, virtual and augmented reality, and artificial intelligence applied to the restoration and interpretation of works of art.

As for "creative technologies," they refer more to the digital tools that support the creative and production processes in the cultural industries. These include video editing software, music composition platforms, and 3D printers for the manufacture of design objects.

The cultural and creative industries are not just about technology. They are also economically and symbolically significant (KEA European Affairs, 2006). They generate financial returns in the form of sales, employment, and exports. They also generate positive externalities in the form of social, educational, and identity-related benefits.

Cultural goods and services indisputably convey values, ideas, and emotions that contribute to individual and collective well-being, intercultural dialogue, and regional appeal.

2.2 Identifying the relevant sectors and activities

To make an accurate and comparative diagnosis of the performance of Islamic countries in the field of cultural and creative technologies, the ICESCO Index must cover a clear and representative range of the different sectors and activities concerned. Cultural and creative industries can be grouped into six main areas, as defined by the UNESCO Framework for Cultural Statistics (UNESCO-ISU, 2009).

• Cultural and natural heritage: museums, archaeological sites, cultural landscapes, etc.

• The performing arts and festivities: theater, dance, music, festivals, etc.

• The Visual arts and crafts: painting, sculpture, photography, design, fashion, etc.

• Books and press: publishing, libraries, book fairs, etc.

• Audiovisual and interactive media: cinema, radio, television, video games, etc.

• Design and creative services: architecture, advertising, software, etc.

In addition to these cultural fields, there are three cross-cutting areas: education and training, archiving and preservation, and equipment and materials. The ICESCO Index adopts this international classification and adapts it to the specificities of the Islamic context. It also incorporates the spiritual and traditional dimensions of Islamic culture, such as calligraphy, illumination, sacred architecture, and Sufi performing arts.

The film industry is undoubtedly one of the most vibrant cultural sectors in the Islamic world. It boasts emerging hubs such as Bollywood in India, Nollywood in Nigeria, and Chollywood in Pakistan (OIC, 2019).

The book market is booming, driven by initiatives such as the Sharjah World Book Capital in the United Arab Emirates and the Islamic Arts Museum Malaysia.

In the field of heritage, groundbreaking projects are underway. These include the virtual recreation of the Great Mosque of the Umayyads in Damascus and the "Digital Silk Road" digital platform for the preservation of cultural sites along the ancient Silk Road.

2.3 Role and contribution of cultural and creative technologies in the economy and society

Cultural and creative technologies have a significant cross-cutting impact on many sectors, including tourism, education, healthcare, and innovation. This is not just an indirect effect; it is a direct result of their enormous economic clout, estimated at $2,200 billion worldwide (CISAC, 2015). They are a strategic lever for achieving the UN's Sustainable Development Goals (SDGs) by 2030. In particular, they will help us achieve SDG 4 on quality education, SDG 8 on decent work and economic growth, SDG 9 on industry, innovation and infrastructure, SDG 11 on sustainable cities and communities, and SDG 17 on partnerships for achieving the goals (UNDP, 2020).

Cultural and creative technologies can help meet a number of development challenges in Islamic countries. They offer employment and entrepreneurship opportunities for young people and women, who make up a significant proportion of the population but often suffer from limited access to the labor market. A study by the Islamic Educational, Scientific and Cultural Organization (ICESCO, 2021) found that the

creative industries employ an average of 2.5% of the active population in Member States, with significant growth potential in the coming years.

Cultural and creative technologies are essential for preserving and promoting Islamic heritage, which is a vital vector of identity, pride, and intercultural dialogue. Innovative initiatives are emerging to digitize and disseminate this heritage. The "Digital Islamic Library" project run by Al-Azhar University in Egypt and the "Islamic World Heritage" network, which brings together heritage institutions in several Islamic countries, are just two examples of this. These projects undoubtedly strengthen the capacities of heritage professionals and raise public awareness of the richness and diversity of Islamic cultures.

Cultural and creative technologies are a driving force for innovation and creativity throughout the economy and society. They stimulate critical thinking, problem-solving, and interdisciplinary collaboration—essential skills for navigating an increasingly complex and uncertain world.

The Islamic world is home to a number of inspiring examples of cross-innovation between the arts, sciences, and technologies. The "Art & Science" festival, organized by the Qatar Science & Technology Park (QSTP), and the "Creative Industries and Innovation" program of the Islamic Development Bank (IDB) are just two such examples.

In short, cultural and creative technologies represent a dynamic and promising ecosystem for the sustainable development of Islamic countries.

The ICESCO Index will map this ecosystem, identify best practices and common challenges, and formulate recommendations to unleash the full potential of this strategic sector. The goal is to establish a unified and inspiring vision that makes cultural and creative technologies a central pillar of 21st-century Islamic societies.
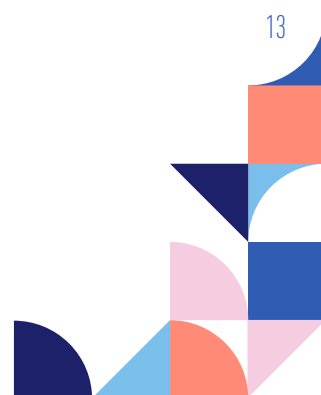
3. METHODOLOGY OF THE ICESCO INDEX FOR CULTURAL AND CREATIVE TECHNOLOGIES

The methodology of the ICESCO Index for Cultural and Creative Technologies will be developed through a rigorous and participatory process, based on international statistical standards and best practices in measuring the performance of creative ecosystems. It will aim to produce reliable, comparable and actionable data to inform public policy and sector development strategies in ICESCO Member States.
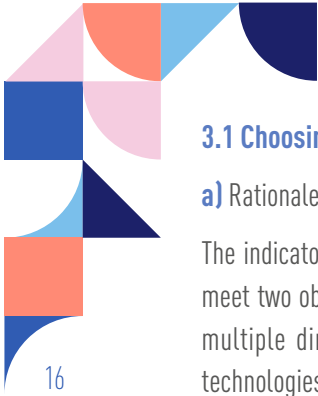
3.1 Choosing the right indicators

a) Rationale and objectives for each indicator

The indicators chosen for the ICESCO Index will meet two objectives. First, they will capture the multiple dimensions of cultural and creative technologies, from innovation and participation to skills and infrastructure. Second, they will allow for relevant comparisons between Islamic countries, while taking into account their cultural specificities and levels of development.

We conducted an exhaustive review of scientific literature and international experience. A set of 47 indicators was adopted. (See annexeds for a summary and 3.2 for a detailed explanation), and grouped into nine thematic pillars.

1. Innovation and digital creativity: These indicators will definitively measure countries' capacity to generate new ideas and digital cultural content, as well as their ability to transform them into technologically innovative products and services.

   Examples include the number of patents filed in the digital creative industries, the proportion of cultural companies conducting R&D in emerging technologies (virtual/augmented reality, artificial intelligence, blockchain, etc.), the number of cultural and creative tech startups, and the density of fab labs, makerspaces, and other third-party digital creation venues.

2. Skills and Education in the Digital Age: This pillar will assess the supply of training courses specializing in cultural technologies, the level of digital qualification of cultural professionals, the place of coding and digital creativity in educational and artistic curricula, and the proportion of cultural actors mastering the digital tools of creation, production, and distribution. This will ensure that the human capital of the cultural and creative sector is fully equipped to meet the demands of the digital age. We will propose innovative indicators to measure creators' transmedia skills and their agility in the face of technological change.

3. Infrastructures and access to digital culture: This pillar will map the digital equipment, networks, and services that support the production and distribution of digitized cultural content. This includes streaming platforms, high-speed networks, data centers, and virtual/augmented reality services in cultural institutions. Particular attention will be paid to the accessibility and inclusivity of these infrastructures, especially for people living in remote areas and those with disabilities.

4. Market and viability of the digital cultural economy: these indicators will analyze the structure and performance of the market for digital cultural goods and services in terms of generated revenues, created jobs, made exports and attracted investments. Particular

attention will be paid to new business models made possible by the digital revolution, such as streaming, crowdfunding, virtual reality, Non-Fungible Token (NFT) and blockchain applied to the traceability of works.

5. Institutional and regulatory framework for culture in the digital age: this pillar will examine the political and legal environment in which players in cultural and creative technologies operate, looking for example at the existence of national strategies dedicated to the digital transformation of culture, the extent to which copyright and intellectual property legislation is adapted to the challenges of the digital age, and the presence of support mechanisms for R&D and technological innovation in the cultural sector.

6. Participation and engagement of connected audiences: these indicators will seek to measure the active involvement of citizens in digital cultural life, whether as consumers (online cultural practices, spending on digitized cultural goods and services, etc.), creators (production of user-generated content, participation in collaborative creative platforms, etc.) or prescribers (sharing and recommending cultural content via social networks, rating and commenting on online platforms, etc.). Indicators on the level of audience engagement and interaction with immersive and personalized cultural experiences will be integrated.

7. Impact and sustainability of digital culture: This new cross-functional pillar will examine the positive and negative externalities of the digital revolution on the cultural and creative ecosystem. This will be achieved by measuring a number of factors, including the environmental footprint of the digital revolution (energy consumption and carbon footprint of streaming and cultural data storage, equipment obsolescence, etc.), its social impact (new fragmentation of the cultural sector, etc.), and its impact on the environment. Furthermore, the digital revolution has social implications, including the emergence of new divides and inequalities in access to digital culture, the ethical issues surrounding the use of audiences' personal data, and its societal contribution (democratic participation via citizen platforms for debate on cultural policies, uses of virtual reality for educational and therapeutic purposes, etc.).

8. The Data and Artificial Intelligence: This pillar will investigate the extent to which countries have developed the capacity to utilise large-scale data and artificial intelligence for the purposes of cultural creation, dissemination and consumption. For instance, it will examine the proportion of cultural institutions that utilize data analytics tools to enhance their understanding of and engagement with their audiences, the number of research-creation

projects that integrate the arts and AI, and the number of artists and cultural professionals who have received training in the challenges and opportunities presented by generative AI, particularly in the fields of music, design, and cinema. The objective is to evaluate the capacity of cultural ecosystems to leverage these technologies to enhance their content and experiences, while also optimizing their efficiency and sustainability.

9. Collaborations and partnerships: This pillar will focus on the degree of cooperation and cross-fertilization between cultural and creative technology actors and those in the digital sector, be they Big Tech companies , innovative startups, research labs or even fab labs and makerspaces. Indicators will be proposed to measure the number and quality of strategic partnerships between cultural institutions and digital companies, the amount of Big Tech investments in cultural and creative projects, and the number of artist residencies in digital innovation labs. The challenge will be to assess the ability of countries to bring together the worlds of culture and technology, to imagine new hybrid modes of creation and distribution, and to strengthen the competitiveness and international influence of their creative industries. Networking resources and skills is a key success factor in a globalized, interdependent digital economy.

For each of these pillars, a mix of quantitative and qualitative indicators has been defined, covering the entire lifecycle of digital cultural content and services, from design to production, distribution and use. Specific indicators have been developed to take into account the economic, social and environmental challenges of the digital transition, from a systemic and forward-looking perspective. This holistic approach will enable us to understand cultural and creative technologies in all their complexity and transformative potential for our societies.

b) Alignment with international statistical frameworks and best practices

In order to ensure the robustness and international comparability of the ICESCO Index, particular attention will be devoted to aligning its indicators with the principal statistical reference frameworks in the cultural field.

- The five major companies in the US digital sector, often referred to by the acronym Big Tech, include Google, Apple, Facebook, Amazon and Microsoft. These major entities are recognized for their considerable influence on the global digital economy.

The 2009 UNESCO Framework for Cultural Statistics (FCS) will serve as a guiding framework for delineating the domain of cultural and creative industries and organizing indicators in a manner that is consistent with the underlying economic functions.

To facilitate data collection and interpretation, correspondences will be established with other international nomenclatures, such as the International Standard Industrial Classification (ISIC) or the United Nations Central Product Classification (CPC). Furthermore, the ICESCO Index will draw on the most effective practices observed in existing composite indices within the cultural field, including the European Commission's City Creativity Index and the University of Toronto's Global Creativity Index.

A benchmark will be conducted with the principal indices of development and innovation, including the UNDP's Human Development Index (HDI), the WIPO's Global Innovation Index (GII), and the World Economic Forum's Global Competitiveness Index (GCI), with the objective of identifying pertinent indicators and ensuring overall consistency.
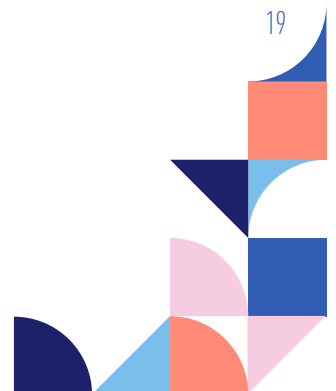
3.2. Detailed description of indicators

Pillar	Indicator	Definition	Objective	Sources
1. Innovation and digital creativity	1.1 Number of patents filed in the digital creative industries	Total number of patents filed by companies and organizations in the cultural and creative sector in digital fields (virtual reality, artificial intelligence, block chain, etc.).	Measuring the technological innovation capacity of cultural and creative players	National intellectual property offices, WIPO
	1.2 Percentage of cultural companies conducting R&D in emerging technologies	Proportion of companies in the cultural and creative sector investing in research and development on emerging technologies (virtual/ augmented reality, artificial intelligence, blockchain, etc.).	Assessing cultural actors' commitment to technological innovation	National innovation surveys, R&D project databases
	1.3 Number of cultural and creative technology startups	Number of innovative companies, less than 5 years old, combining cultural creation and digital technologies (virtual reality, artificial intelligence, blockchain, etc.).	Measuring entrepreneurial dynamism in the cultural and creative technologies sector	National business registers, startup databases
	1.4 Density of fab labs, makerspaces and other digital creation facilities	Number of fab labs, makerspaces and other digital creation and manufacturing spaces per 100,000 inhabitants	Evaluate the availability of digital creativity infrastructures for populations	National networks of fab labs and makerspaces, directories of third places
	1.5 Share of original digital cultural content in national consumption	Proportion of digital cultural consumption (by value) involving locally-produced original content	Measuring the vitality of local digital cultural creativity	Surveys on cultural practices, data from streaming and download platforms

	2.1 Number of training courses specializing in cultural and creative technologies	Number of initial and continuing training courses specializing in cultural and creative technologies (virtual reality, artificial intelligence, blockchain, etc.).	Assessing the supply of skills in the field of cultural and creative technologies	Ministries of higher education and vocational training, universities and specialized schools
	2.2 Digital skills of cultural professionals	Number of cultural professionals with a digital diploma or certification	Measuring the digital skills of cultural professionals	Surveys of cultural jobs, population censuses
	2.3 The place of coding and digital creativity in educational and artistic curricula	Proportion of primary and secondary students taught coding and digital creativity	Evaluating the integration of digital technology into educational and artistic pathways	Ministries of Education, curriculum surveys
2. Compétences et éducation à l'ère digitale	2.4 Percentage of cultural actors mastering digital creation, production and distribution tools	Proportion of artists, creators and cultural professionals claiming to have mastered the main digital tools in their field	Measuring the level of digital tool appropriation by cultural players	Surveys on the digital practices of cultural professionals
	2.5 Creators' transmedia skills index	Composite score measuring the skill level of cultural creators in transmedia storytelling, production and distribution	Assessing creators' ability to develop hybrid, multi-media cultural projects	Surveys among cultural creators, analysis of transmedia projects
	2.6 Number of transdisciplinary training courses combining the arts, sciences and technologies	Number of initial and continuous training courses integrating science, arts, and technology (STEAM)	Measuring the range of training courses promoting transdisciplinarity and the hybridization of skills	Ministries of Higher Education and Vocational Training, universities and specialized schools

3. Infrastructure and access to digital culture	3.1 Number of available cultural streaming platforms	Number of streaming platforms dedicated to cultural content (music, audiovisual, video games, books, etc.) accessible in the country	Assessing the diversity of cultural content available online	Media observatories, telecom regulators
	3.2 Very-high-speed network coverage (fixed and mobile)	Proportion of the population with access to a very broadband fixed or mobile connection (> 30 Mbps)	Measuring the availability of connection infrastructures for accessing cultural content online	Telecom regulators, network operators
	3.3 Capacity and performance of data centers dedicated to storing cultural content	Storage capacity (in petabytes) and performance (availability rate, latency) of data centers dedicated to hosting cultural content.	Evaluate the capacity for hosting and distributing cultural data in the cloud	Data center operators, cloud service providers
	3.4 Percentage of cultural institutions offering virtual/ augmented reality services	Proportion of museums, libraries, archives and heritage sites offering immersive virtual or augmented reality experiences	Measuring the integration of virtual/ augmented reality in cultural institutions	Ministries of Culture, national networks of cultural institutions
	3.5 Accessibility index of digital cultural offerings for vulnerable audiences	Composite score measuring the level of accessibility of digital cultural platforms and content for audiences with disabilities, the elderly, low-income groups, etc.	Assessing the inclusivity of digital cultural offerings	User surveys, platform and content accessibility tests
	3.6 Energy consumption of cultural data centers	Annual electricity consumption (in MWh) of data centers dedicated to hosting cultural content, per terabyte of data stored	Measuring the energy efficiency of digital cultural infrastructures	Data center operators, energy suppliers

4. Market and viability of the digital cultural economy	4.1 Revenues generated by digital cultural goods and services	Total value (in USD) of sales of digital cultural goods and services, including subscriptions to streaming platforms, online content purchases, digital advertising, etc.	Measuring the size of the market for digital cultural goods and services	National statistics institutes, data provided by streaming and e-commerce platforms
	4.2 Jobs created in digital cultural and creative industries	Number of direct and indirect jobs generated by the cultural and creative industries in the digital sector	Assessing the contribution of digital cultural industries to employment	National statistical institutes, surveys on employment in cultural industries
	4.3 Value of exports of digital cultural goods and services	Total value (in USD) of exports of digital cultural goods and services, including sales of online content, licenses and copyrights, digital creative services, etc.	Measuring the international competitiveness of digital cultural industries	National statistical institutes, customs and balance of payments data
	4.4 Amount invested in cultural technology startups	Total value (in USD) of venture capital investments in cultural and creative technology startups	Assessing the attractiveness of cultural tech startups for investors	Venture capital investment databases (Crunchbase, Pitchbook, etc.)
	4.5 Contribution of new digital business models to sector revenues	Share of cultural sector revenues generated by new business models made possible by digital technology (streaming, crowdfunding, virtual reality, NFT, blockchain, etc.).	Measuring the digital transformation of cultural business models	National cultural accounts, data from platforms and cultural players
	4.6 Share of cultural and creative industries in exports of digital services	Share of the value of exports of digital services (excluding computer and telecommunications services) generated by the cultural and creative industries	Assessing the weight of cultural industries in international trade in digital services	National statistical institutes, customs and balance of payments data

5. Institutional and regulatory framework for culture in the digital age	5.1 Existence of a national strategy for the digital transformation of culture	Existence of a strategic document dedicated to the digital transformation of the cultural sector, setting out a vision, objectives and a medium-term action plan.	Assessing the level of political priority given to the digital transition of culture	Ministries of Culture, public agencies in charge of digital transformation
	5.2 Level of adaptation of copyright and intellectual property legislation to digital challenges	Composite score measuring the degree of adaptation of the legal framework on copyright and intellectual property to the new digital environment (status of AI-generated creations, regulation of platforms, etc.).	Assessing the extent to which the specific characteristics of digital technology are taken into account in the protection of creators' rights	National intellectual property institutes, legal researchers
	5.3 Support mechanisms for R&D and technological innovation in the cultural sector	Number and amounts of public support schemes for R&D and technological innovation dedicated to the cultural sector (grants, loans, incubators, calls for projects, etc.).	Measuring the public effort in favor of digital innovation in culture	Ministries of Culture, Research and Innovation, R&D funding agencies
	5.4 Level of personal data protection for cultural audiences	Composite score assessing the effectiveness of the legal framework and mechanisms for protecting the personal data of users of digital cultural services	Assessing the digital confidence of cultural audiences	Personal data protection authorities, consumer associations
	5.5 Tax policy adapted to the digital cultural economy	Existence of specific tax measures to support the development of the digital cultural economy (tax credits, exemptions, reduced VAT rates, etc.).	Assessing the adaptation of taxation to the challenges of the digital cultural economy	Ministries of Finance, Digital Economy and Culture

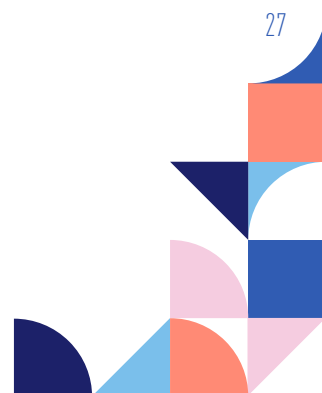|				
6. Participation and involvement of connected audiences	6.1 Penetration rate and frequency of online cultural practices	Proportion of individuals aged 15 and over reporting regular cultural practices online (watching films/ serials, listening to music, visiting virtual museums, etc.).	Measuring the level and intensity of online cultural participation	National statistics institutes, surveys of household cultural practices
	6.2 Household spending on dematerialized cultural goods and services	Share of annual household budget allocated to dematerialized cultural goods and services (subscriptions, content purchases, etc.).	Assessing the importance of digital cultural consumption in household spending	National statistical institutes, household budget surveys
	6.3 Share of user-generated cultural content in online consumption	Proportion of time spent on user-generated online cultural content (videos, music, blogs, fan fiction, etc.)	Measuring the role of online amateur and participatory cultural practices	Digital usage surveys, data from content-sharing platforms
	6.4 Engaging audiences on collaborative cultural platforms and social networks	Average number of interactions (likes, comments, shares) generated by cultural content published on collaborative platforms and social networks	Measuring audiences' level of active engagement with online cultural content	Data from collaborative platforms and social networks, social media analytics tools
	6.5 Level of customization and interactivity of digital cultural experiences	Composite score measuring the degree of customization and interactivity of digital cultural offerings (recommendations, virtual/augmented reality, chatbots, etc.).	Assessing the ability of cultural actors to offer customized, immersive experiences	User surveys, data from cultural platforms
	6.6 Internet users' level of trust in digital cultural platforms	Composite score measuring Internet users' perception of the security, transparency and fairness of the main digital cultural platforms	Evaluating public confidence in the digital cultural economy	Surveys on digital confidence, rankings of the most responsible platforms

7. Impact and sustainability of digital culture			
7.1 Carbon footprint of digital cultural consumption	Greenhouse gas emissions (in tonnes of CO2 equivalent) linked to the consumption of digital cultural goods and services, per capita and per year	Measuring the environmental impact of digital cultural practices	National statistical institutes, ecological transition agencies, carbon footprint calculators
7.2 Recycling and reuse rate of digital cultural equipment	Share of digital equipment used in the cultural sector (computers, cameras, projectors, etc.) recycled or reused at end-of-life	Assessing the cultural sector's contribution to the circular economy of digital equipment	Ministries of Culture and Environment, e-waste recycling industries
7.3 Digital accessibility index for vulnerable and remote populations	Composite score measuring the level of access and use of online cultural offerings by vulnerable (disabled, elderly, etc.) and remote populations (rural and outlying areas).	Assessing the impact of digital technologies on the cultural inclusion of populations	Surveys on cultural access and participation for vulnerable and remote populations
7.4 Number of online citizen consultations on cultural policies	Annual number of consultations, debates and co-construction of cultural policies organized online by public authorities	Measuring the contribution of digital technology to cultural democracy	Ministries of Culture, civic tech platforms dedicated to culture
7.5 Share of virtual reality applications for educational and therapeutic purposes	Proportion of virtual reality experiences in the cultural sector with educational (courses, training) or therapeutic (treatment of phobias, pain, etc.)	Evaluate the positive social externalities of virtual reality in culture	Educational and health facilities, virtual reality studios
7.6 Contribution of cultural and creative technologies to UN 4, 8, 9, 11 and 17 SDGs	Composite score measuring the contribution of cultural and creative technologies to achieving the sustainable development goals related to education, employment, innovation, sustainable cities and partnerships	Assess the alignment of cultural technologies with sustainable development priorities	National SDG implementation reports, cultural actors data
7.7 Share of digital cultural consumption with low environmental impact	Proportion of digital cultural consumption achieved through sober practices and technologies (downloading, low definition streaming, refurbished equipment, etc.)	Measuring the spread of green digital cultural consumption patterns	Surveys on cultural practices, data from platforms and access providers

8. Data and artificial intelligence	8.1 Number of cultural institutions using data analytics tools to understand and target their audiences	Number of cultural establishments (museums, libraries, theaters, etc.) regularly using data analytics solutions to analyze the profiles, preferences and uses of their audiences.	Measuring the spread of data-driven approaches in cultural marketing	Surveys of cultural establishments, data from analytics solution providers
	8.2 Number of research-creation projects combining art and AI	Number of research and creation projects associating artists and scientists around the application of artificial intelligence technologies (machine learning, natural language processing, automatic generation, etc.) to the production of artistic works and experiences.	Measuring the level of collaboration between the arts and sciences around AI	National research funding agencies, research and creation centers, art schools
	8.3 Number of artists and cultural professionals trained in AI issues and opportunities	Number of artists and cultural professionals (managers, mediators, etc.) who say they have received training on the challenges (ethical, legal, aesthetic, economic) and creative applications of AI in their field of activity.	Assess the level of AI awareness and skills development in the cultural sector	Surveys conducted among artists, cultural professionals and continuing education organizations

9. Collaborations and partnerships	9.1 Number of strategic partnerships between cultural institutions and technology companies	Number of multi-year partnership agreements between cultural institutions (museums, libraries, theaters, etc.) and technology companies (telecoms, IT, video games, etc.) covering the co-production of content, the development of innovative tools and services, the sharing of resources and skills, etc.	Measuring the intensity of cooperation between the culture and technology sectors	Ministries of Culture, innovation agencies, activity reports of cultural institutions
	9.2 Big Tech investments in cultural and creative projects	Total value (in USD) of investments and partnerships made by the web giants (Google, Apple, Facebook, Amazon, Microsoft) in projects and organizations in the cultural and creative sector (content co-production, sponsorship, licensing agreements, support for creation, etc.).	Assessing the support provided by major digital companies to the cultural and creative ecosystem	Big tech activity reports and foundations, specialized business press
	9.3 Number of artist residencies in digital innovation labs	Annual number of artists hosted in digital innovation labs (living labs, fablabs, arts and sciences, etc.), as part of research-creation projects combining different disciplines (arts, design, sciences, engineering, etc.).	Measuring the decompartmentalization between artistic creativity and technological innovation	Ministries of culture and research, research and innovation centers, art and design schools

3.3. Sources and use of existing data

a) Diversity and complementarity of mobilized sources

In developing the ICESCO Index of Cultural and Creative Technologies, a multi-source approach was employed, drawing on the extensive and diverse array of existing data at the national and international levels. The objective was to integrate disparate data types (including official statistics, administrative data, research data, and big data) in a manner that would yield a comprehensive, reliable, and accurate representation of the sector's realities within the Member States.

A substantial amount of work was conducted to identify, collect, and harmonize pertinent data, drawing on the national statistical systems of Member States and the databases of relevant international organizations, including UNESCO, WIPO, UNCTAD, OIC, and others. Particular attention was paid to ensuring the quality, comparability, and timeliness of the data utilized.

Additionally, innovative and underutilized data sources were incorporated, including copyright collective management society registers, databases on public funding and assistance for cultural and creative industries, and data generated by digital platforms and social networks.

Concurrently, a systematic review of scientific and grey literature was conducted to identify pertinent data and indicators generated as part of research activities or public policy evaluations.

This multi-source, multi-actor approach necessitated a significant investment of resources in terms of documentation, consistency, and communication of the mobilized data. Detailed metadata have been produced for each indicator, specifying such elements as the concepts, calculation methods, sources, coverage, and limits. This is intended to guarantee the transparency and traceability of the Index. A data portal will be made available to facilitate the convenient access and reuse of these data by the user community.

b) Collaboration with national statistical institutes and international organizations

It is recognized that the quality of an index is contingent upon the quality of the data it contains. Consequently, the ICESCO Index team will adopt a partnership-based and inclusive approach to data collection, in close collaboration with Member States' national statistical systems and relevant international organizations.

In each country, a focal point will be designated within the national statistics institute, with responsibility for coordinating data feedback for the Index indicators and ensuring consistency with other national statistical productions.

To facilitate the implementation of the Index, capacity-building workshops will be conducted for the designated focal points to familiarize them with the Index's conceptual framework and methodological approach, while also fostering a platform for knowledge exchange between countries.
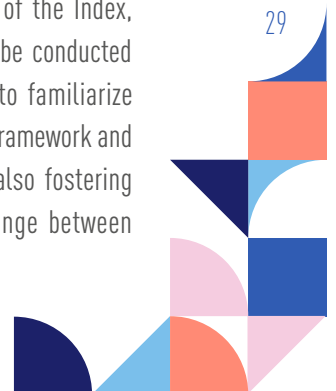
At the international level, ICESCO will collaborate closely with the statistical divisions of the United Nations (UNSD), UNESCO (UIS), UNCTAD (UNCTADstat), and the World Intellectual Property Organization (WIPO) to gain access to their databases and benefit from their methodological expertise.

An international advisory committee will be established, comprising esteemed experts in the field of cultural statistics, to provide guidance on the development of the Index and to ensure its alignment with international standards.

Furthermore, synergies will be sought with regional statistical observatories and networks, such as the Arab Cultural and Creative Industries Observatories Network (ARACON) or the Science Policy Network in Africa (GRPS), with the objective of pooling efforts in collecting and analyzing data on cultural and creative technologies in the Islamic space.

3.4. Data processing and analysis

a) Data quality control and harmonization

Once the data have been collected from the various sources, a rigorous quality control and harmonization protocol will be applied to guarantee the reliability and comparability of the ICESCO Index indicators. The protocol will be based on the guidelines of the United Nations National Quality Assurance Framework (UN-NQAF) and on the best practices of national and international statistical institutes.

Each indicator will be subjected to a comprehensive examination to identify any missing, anomalous, or discordant values. This process will entail a cross-referencing of disparate data sources and the mobilization of sector-specific expertise within the Index team. Advanced statistical techniques, such as multiple imputation or principal component analysis, may be employed to supplement missing data and reduce the dimensionality of the indicators.

Specific consideration will be given to the harmonization of indicators in order to facilitate comparison between countries and over time.

In order to accommodate discrepancies in definition, coverage, or reference period, corrections will be made based on the metadata provided by data producers. In instances where applicable, exchange rates and purchasing power parities will be applied in order to express monetary indicators in a common unit of measurement.

In conclusion, a collaborative data validation process will be established, comprising national focal points, sector experts, and the Index's international partners.

Restitution workshops will be conducted in each country to present the provisional findings of the Index and to solicit feedback from relevant stakeholders. This participatory approach will facilitate the refinement of the data and enhance the sense of ownership of the Index by its future users.

b) Indicator and composite index calculation methods

Once the data have been harmonized and validated, a series of calculations will be required to transition from the raw indicators to the final composite index.

These steps will be conducted in accordance with the methodological standards for composite indices, as delineated in the Organisation for Economic Co-operation and Development (OECD) Handbook on Constructing Composite Indicators.

First and foremost, the raw indicators will be standardized in order to ensure comparability and facilitate aggregation. The efficacy of various standardization methods will be evaluated, including rank, distance to the average, minimum-maximum, and others. The results will be assessed in terms of robustness and ease of interpretation. The selected method will be the z-score, which expresses each indicator in terms of standard deviation from the sample average.

Subsequently, weights will be assigned to the indicators and pillars of the Index, reflecting their relative importance in the measurement of cultural and creative technologies.

In lieu of establishing these weights in a non-statistical manner, a statistical approach will be employed, utilizing factor analysis and structural equation modeling techniques. This approach will facilitate the identification of latent relationships between indicators and the reduction of information redundancy.

Finally, the standardized and weighted indicators are aggregated at the pillar level and then at the global index level using a geometric average. Unlike the arithmetic average, this aggregation method will encourage countries to improve their performance on all indicators rather than focusing on a few key ones.

It will also be less sensitive to extreme values and better reflect the non-linear interactions between the different dimensions of the Index.

To test the robustness of the ICESCO Index, several sensitivity and uncertainty analyses will be carried out, varying normalization, weighting and aggregation methods. These analyses will quantify the impact of methodological choices on the Index results and provide confidence intervals for country scores and ranks. They will also highlight areas where further data collection and harmonization efforts are needed to reduce uncertainty.

3.5. Presentation and dissemination of results

a) Dissemination platforms (reports, online dashboards, data visualizations)

In order to maximize the impact and use of the ICESCO Index, a multi-channel dissemination strategy will be established, combining traditional and digital media adapted to different target audiences (policy makers, cultural professionals, researchers, general public, etc.).

The main report of the Index, to be published in paper and electronic formats, will present in detail the methodology, key findings and policy recommendations. It will be complemented by a series of summary country fact sheets highlighting the strengths, weaknesses and opportunities of each Member State in the field of cultural and creative technologies. These fact sheets will be designed as decision-making tools for policy makers and investors.

In parallel, a dedicated website will be developed to provide an interactive and customized experience for Index users. The website will include a dashboard that will allow users to navigate through the results by country, pillar and indicator, compare performance and identify best practices. Attractive and educational data visualizations (maps, graphs, infographics, etc.) will be offered to facilitate the understanding and appropriation of the results by a wide audience.

The website will also host an open database that will allow users to download Index data free of charge and reuse it for their own analyses and applications.

Application Programming Interfaces (APIs) will be made available to facilitate the integration of Index data into other information systems. Detailed documentation on metadata and calculation methods will be provided to ensure the transparency and reproducibility of the Index.

Events to launch and disseminate the Index will be organized at national, regional and international levels, in partnership with think tanks, universities and multilateral organizations. These events will aim to stimulate public debate on the challenges and opportunities of cultural and creative technologies in the Islamic world, and to promote the exchange of experiences and best practices among Member States. They will provide an opportunity to present the findings of the Index to policy makers and opinion leaders and to gather their comments and suggestions for improvement.

Finally, a multimedia communication campaign will be launched to ensure wide visibility of the ICESCO Index and to engage stakeholders. This campaign will include traditional media (press releases, brochures, infographics, etc.) and targeted actions on social networks (dedicated hashtags, viral challenges, partnerships with influencers, etc.). Webinars and online trainings will be offered to build the capacity of cultural and creative professionals to adopt and use the Index in their professional practice.

b) Publication frequency and timing

In order to ensure the relevance and timeliness of the ICESCO Index, a regular publication frequency will be established, taking into account data collection and processing constraints as well as user needs. The Index will be updated every two years, with the first edition scheduled for 2024 and the second for 2026.

This biannual frequency will make it possible to monitor the progress made by Member States in developing their cultural and creative ecosystems, while allowing sufficient time to observe the impact of the public policies implemented. It will also coincide with the calendar of major international gatherings on culture and sustainable development, such as the World Forum on the Creative Economy or the Conference of the Parties to the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions.

Between editions of the Index, partial updates will be offered on the website to maintain a continuous flow of information and analysis on trends and innovations in the cultural and creative technologies sector. Thematic notes and case studies will be published on a regular basis to explore specific aspects of the Index in greater depth and to highlight success stories from Member States.

A detailed release schedule will be prepared and communicated in advance to Member States and Index partners to enable them to anticipate and organize data collection and transmission. This timetable will include precise deadlines for the various stages of the index production process, from data collection to quality control, indicator calculation and dissemination of results.

Regular updates will be organized with national focal points and international partners to monitor progress and adjust the schedule if necessary.

An online collaboration platform will be set up to facilitate information exchange and coordination between the various actors involved in the production of the Index.

In summary, the methodology of the ICESCO Index for Cultural and Creative Technologies will be designed to provide a robust, comparable and actionable measure of Member States' performance in this strategic area. Based on the best international statistical standards and a participatory and transparent approach, it will aim to inform public policy and stimulate innovation and cooperation in the cultural and creative sectors of the Islamic world.

Implementation of this methodology will require sustained efforts in statistical capacity building and resource mobilization at national and regional levels. In return, it will provide a valuable knowledge base to guide investments and partnerships for sustainable and inclusive development in ICESCO Member States.

The results of the ICESCO Index will provide a powerful advocacy and benchmarking tool to accelerate the achievement of the culture-related Sustainable Development Goals and to position the Islamic world as a key actor in the global creative economy. They will help unleash the potential of young creative talent and make cultural technologies an engine of innovation, dialogue and resilience for Islamic societies.

Learn more about data dissemination platforms:

- The Global Innovation Index website: (https://www.wipo.int/global_innovation_index/fr/index.html) provides an interactive dashboard for comparing country performance and analyzing trends.

- The World Bank provides an open database: (https://data.worldbank.org/) and visualization tools to explore development indicators.

Examples of creative economy reports:

- The United Nations Creative Economy Report: (https://unctad.org/webflyer/creative-economy-outlook-trends-international-trade-creative-industries) analyzes trends in international trade in creative goods and services.

- The UNESCO Creative Cities Report: (https://fr.unesco.org/creative-cities/home-fr) highlights best practices from member cities of the Creative Cities Network.

Statistical capacity building initiatives:

- The World Bank's International Comparison Program: (https://www.worldbank.org/en/programs/icp) aims to strengthen the capacity of national statistical systems to produce quality purchasing power parity data.

- The UNESCO Training Centre for Cultural Statistics: (https://unesdoc.unesco.org/ark:/48223/pf0000226531) provides workshops and resources to improve the collection and analysis of cultural data in developing countries.

4. DEVELOPMENT PERSPECTIVES FOR THE ICESCO INDEX OF CULTURAL AND CREATIVE TECHNOLOGIES

The ICESCO Index of Cultural and Creative Technologies is intended to be an evolving and collaborative tool, constantly evolving and adapting to the changing realities of the sector and the needs of its users. Several avenues of development will be explored to enhance its relevance, sustainability and impact.

4.1. Establishment of a network of national focal points

A network of national focal points will be established in each ICESCO Member State to ensure effective coordination and ongoing dialogue between the central Index team and local actors. These focal points will be designated within national statistical institutes, ministries in charge of culture and creative industries, or specialized agencies for innovation and digital technology.

Their role will be multifaceted: to facilitate data collection and feedback for the Index indicators, to contribute to the validation and interpretation of results, to share best practices and inspiring experiences from their countries, and to promote the use of the Index among decision-makers and civil society. They will also be privileged interlocutors for communicating the needs and expectations of end-users and for suggesting ways to improve the methodology and dissemination tools.

Regular face-to-face or remote meetings will be organized between the national focal points to promote the exchange of experience, mutual technical assistance and the development of joint projects. An online collaborative platform will be made available to them to facilitate communication and resource sharing. A mentoring programme will also be set up to enable the most advanced countries to support those in the process of developing their cultural statistics systems.

4.2. Strengthening the statistical capacities of Member States

In addition to producing comparable data, the ICESCO Index will contribute to strengthening Member States' statistical capacities in the field of cultural and creative technologies. An inventory will be carried out to identify needs and gaps in terms of skills, infrastructure and funding, based in particular on assessments of national statistical systems carried out by UNESCO and the PARIS21 partnership.

On this basis, a training and technical assistance programme will be implemented in cooperation with international organisations and bilateral cooperation agencies. It will cover the various stages of the statistical cycle, from survey design, data collection, processing and analysis to the dissemination of results. Particular attention will be paid to methodological and technological innovations, such as the use of big data, spatial econometrics and participatory approaches to measure cultural well-being.

Online training modules (MOOCs) will be developed and made available free of charge on the Index website to enable professionals and students to acquire cutting-edge skills in cultural statistics and the creative economy. Partnerships will be forged with universities and research centres in the region to integrate these modules into their curricula and foster the emergence of a new generation of experts in measuring creativity in the Islamic world.

A Statistical Innovation Fund will be set up to support pilot projects and experiments carried out by Member States to improve the quality and coverage of their cultural data. This fund could, for example, finance the development of mobile applications to collect data on citizens' cultural practices, the creation of local observatories of the creative economy or the development of participatory mapping of cultural resources in territories.

4.3. Strengthening synergies with existing initiatives for continuous improvement of the Index

The ICESCO Index for Cultural and Creative Technologies is part of a rich and dynamic ecosystem of national and international initiatives aimed at measuring and promoting the creative economy and cultural industries. Far from duplicating these efforts, the Index will seek to complement and enhance them in a spirit of partnership, sharing and continuous improvement.

An in-depth mapping of existing indices, observatories and programmes has been carried out to identify complementarities and opportunities for collaboration. Contacts will be established with the organisations responsible for these initiatives to discuss common methodological and operational issues and to explore opportunities for synergy.

Targeted partnerships will be developed with benchmark indices in the field, such as the European Commission's City Creativity Index, the University of Toronto's Global Creativity Index and UNCTAD's Innovation Index. The ICESCO Index will provide bridges and complementary modules to adapt these tools to the context of Islamic countries, while ensuring international comparability of results.

At the multilateral level, ICESCO will deepen its cooperation with leading organizations in the field of cultural statistics and the creative economy, such as UNESCO, WIPO, OECD and OIF. The Index will draw on their methodological standards and databases to consolidate its credibility and scope. In return, it will contribute to enriching their work by bringing an Islamic perspective and sharing its data and analysis on a panel of countries that are still poorly covered.

At the regional level, operational synergies will be activated with specialized bodies to pool data collection and processing efforts, and to undertake joint advocacy and capacity building activities with creative economy actors in the Islamic world.

At the national level, the ICESCO Index will forge close partnerships with the emerging cultural and creative observatories in Member States, such as the Economic Observatory in Tunisia and the Observatory of cultural policies in Africa. Communities of practice are being set up to encourage the exchange of experience and the dissemination of best practices between these bodies. The Index will support them in their development by providing methodological support and common tools. It will also promote their work and network them within ICESCO.
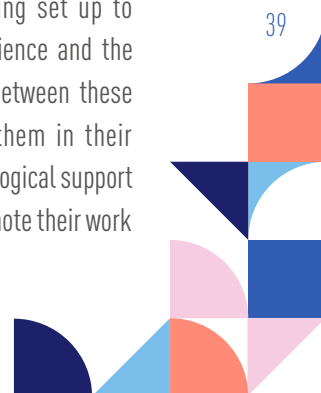
Through this partnership and collaborative approach, the ICESCO Index seeks to be part of a virtuous cycle of continuous improvement and collective impact. It will be an evolving and adaptable tool, drawing lessons from inspiring experiences and incorporating the most promising methodological innovations. It will also be a vector for cooperation and collective intelligence among actors committed to sustainable and inclusive development through culture and creativity in the Islamic world.

4.4. Consideration of extending the geographical and thematic coverage of the Index

In the medium term, consideration will be given to the relevance and feasibility of extending the geographical coverage of the ICESCO Index beyond the Organization's Member States in order to enhance its international impact and contribution to global sustainable development agendas. Such an extension would make it possible to compare the performance of Islamic countries with that of other regions of the world and to identify new opportunities for cooperation and investment.

Criteria will be defined to select potential partner countries based on their weight in the global creative economy, their cultural proximity to the Islamic world or their commitment to culture-related sustainable development goals. A dialogue will be initiated with these countries to assess their interest and capacity to join the ICESCO Index and to define the modalities of their participation in terms of data collection and funding.

At the same time, a prospective reflection will be carried out on the thematic expansion of the Index to cover new issues and new forms of creative expression in the digital age. Areas such as artificial intelligence, virtual reality, blockchain and smart cities will be explored in order to anticipate their impact on models of creation, production and cultural dissemination in Islamic countries.

A monitoring and consultation process will be launched, bringing together experts, researchers, entrepreneurs and artists from different disciplines to identify emerging trends and weak signals that will shape the future of the creative economy in the region. Innovation labs will be organized to design and prototype new indicators and data collection methods, using the most advanced technologies and the collective intelligence of creative communities.

This forward thinking will feed into a process of continuous improvement of the ICESCO Index to ensure its relevance and adaptation to rapid changes in the sector. It will also help position ICESCO as a pioneering and visionary organization, able to inform decision-makers and stakeholders in the creative economy about the major challenges and opportunities that lie ahead in 2030 and beyond.

In conclusion, the prospects for the development of the ICESCO Index of Cultural and Creative Technologies are many and ambitious. They reflect ICESCO's determination to make this tool a real catalyst for cooperation, innovation and creativity in the Islamic world, in the service of sustainable development and intercultural dialogue.

The creation of a network of national focal points, the upgrading of statistical capacities, the search for synergies with existing initiatives and the gradual extension of the geographical and thematic coverage of the Index are all levers that will be activated to increase its impact and sustainability.

These development perspectives will be constantly refined and enriched thanks to an ongoing dialogue with Member States, international partners and actors in the creative economy. They will be the subject of a strategic roadmap, accompanied by a results framework and an indicative budget, which will be submitted to ICESCO's governing bodies for approval.

The aim is to make the ICESCO Index a global benchmark for measuring and promoting creativity and cultural innovation in the Islamic world, and a tool at the service of a new model of inclusive, sustainable and people-centered development.

Examples of international cooperation initiatives in the field of cultural statistics:

- The UNESCO Culture for Development Indicators Suite (CDIS) project, which aims to establish a methodological framework and a global database on the contribution of culture to sustainable development.

- The International Network on the Creative Economy and Development (UNCTAD Creative Economy Network) (https://unctad.org/topic/trade-analysis/creative-economy-programme/creative-economy-network), which brings together experts and decision-makers to share knowledge and best practices on measuring and promoting creative industries.

Examples of national strategies for creative economy development:

- The ¨Créative Maroc¨ strategy, which aims to make the Kingdom a leader in Africa and an international benchmark in cultural and creative industries by 2030.

- The ¨Create UK¨ plan, which sets out a vision and concrete actions to make the UK a global creative superpower by 2025.

5. CONCLUSION

At the end of this survey, it is clear that the ICESCO Index for Cultural and Creative Technologies will be a major step forward in measuring and promoting the creative economy in the Islamic world. Resulting from an ambitious, rigorous and inclusive approach, this index will provide decision-makers, cultural actors and civil society with a valuable tool for understanding, analyzing and valorizing the potential of cultural and creative industries in the region.

5.1. Summary of methodological contributions of the ICESCO Index

From a methodological point of view, the ICESCO Index will make a number of important innovations and contributions. First, it will be based on a solid, consensual conceptual framework, rooted in the latest developments in creative economy research and cultural statistics. This framework will make it possible to capture the multiple dimensions of creativity and cultural innovation by articulating quantitative and qualitative, objective and subjective, individual and collective indicators.

Second, the ICESCO Index will mobilize a wide range of data sources, from official statistics to massive data, ad hoc surveys and administrative data. This multi-source approach will make it possible to triangulate information, fill in gaps and produce finer, more nuanced analyses of the realities of the creative economy in Member States.

It will also pay particular attention to the challenges of international comparability and harmonization of data, drawing on the standards and best practices established by multilateral organizations. Efforts will be made to boost the statistical capacity of Member States and to promote the adoption of common methodologies for data collection and processing.

Finally, the ICESCO Index will be characterized by its participatory and inclusive dimension, closely involving national and local stakeholders in all stages of its development, from design to dissemination, data production and analysis.

This collaborative approach will strengthen the appropriation and use of the Index by its end-users and foster the emergence of a community of practice on cultural statistics in the Islamic world.

5.2. Vision for a sustainable data ecosystem on cultural and creative technologies in ICESCO Member States

Beyond the occasional production of data and analysis, the ambition of the ICESCO Index will be to contribute to the establishment of a true data ecosystem on cultural and creative technologies in the Islamic world. This ecosystem will be characterized by its sustainability, resilience and ability to adapt to rapid changes in the sector.

It will be based on several complementary pillars. First, a network of national and regional creative industries observatories will be established, building on existing structures and filling any gaps. These observatories will play a key role in collecting, analyzing and disseminating data on the cultural and creative industries, working closely with national statistical systems and stakeholders in the field.

Next, a collaborative digital platform will be developed to facilitate the sharing, visualization and use of ICESCO Index data by different stakeholders. This platform will provide advanced features for searching, filtering and cross-referencing data, as well as analytical and simulation tools to assist in decision-making. It will be designed as a regional public asset, accessible free of charge to all actors in the Islamic creative ecosystem.

A research and innovation program will be launched to explore new ways of measuring and valuing the creative economy, drawing in particular on the contributions of data science, artificial intelligence and blockchain technology. This program will fund collaborative projects involving researchers, entrepreneurs, artists and public actors, with the aim of developing innovative solutions to the challenges of cultural creation and dissemination in the digital age.

Strategic partnerships will be forged with universities, research centers and think tanks specializing in the creative industries to strengthen the links between data measurement and analysis on the one hand, and the training and professionalization of cultural professionals on the other. Exchange programs, research grants and chairs of excellence will be set up to attract and retain the best talent in the cultural and creative industries.

Finally, special attention will be paid to promoting and disseminating the results of the ICESCO Index to policy makers, the media and the public. High-level events, communication campaigns and advocacy activities will be organized to raise awareness of the challenges and opportunities of the creative economy in the Islamic world and to encourage the adoption of ambitious and coherent public policies in favor of cultural and creative industries.

5.3. Next steps and a call for commitment from Member States

Beyond the occasional production of data and analysis, the ambition of the ICESCO Index will be to contribute to the establishment of a true data ecosystem on cultural and creative technologies in the Islamic world. This ecosystem will be characterized by its sustainability, resilience and ability to adapt to rapid changes in the sector.

It will be based on several complementary pillars. First, a network of national and regional creative industries observatories will be established, building on existing structures and filling any gaps. These observatories will play a key role in collecting, analyzing and disseminating data on the cultural and creative industries, working closely with national statistical systems and stakeholders in the field.

A first report of the ICESCO Index for Cultural and Creative Technologies will be published in 2024, providing a first overview of the creative economy in the Islamic world and identifying the main challenges and opportunities for the development of the sector. This report will be widely disseminated and discussed at a high-level regional conference bringing together Ministers of Culture, Economy and Innovation of Member States, as well as representatives of international organizations, the private sector and civil society.

The results of the Index will then be updated every two years to monitor progress and identify new trends and weak signals. Thematic analyses and

case studies will be carried out to explore certain key issues in greater depth, such as the role of women in the creative economy, the impact of digital technologies on cultural business models, and the contribution of the creative industries to the resilience and sustainability of Islamic cities.

To ensure the sustainability and impact of this initiative, a dedicated funding mechanism will be established, combining contributions from Member States, development partners and the private sector. This mechanism will provide support for data collection and analysis, capacity building and dissemination of results, as well as innovative projects led by actors in the Islamic creative ecosystem.

Finally, a call for commitment and mobilization will be issued to all ICESCO Member States to take full ownership of this tool and turn it into a lever for transformation and cooperation at the service of their cultural and creative industries. This commitment could take various forms, such as the appointment of high-level focal points, the implementation of dedicated national strategies, the allocation of budgetary and human resources, or active participation in the Index's activities and governance bodies.

Indeed, it is through collective action and the pooling of energies and talents that the Islamic world will be able to unleash the full potential of its cultural and creative technologies and make them a driving force for sustainable development, intercultural dialogue and human fulfilment. The ICESCO Index is designed to contribute to this ambition, in the service of a shared vision and a better future for the peoples and societies of ICESCO.

In conclusion, the ICESCO Index of Cultural and Creative Technologies will be a pioneering and constructive initiative for measuring and promoting the creative economy in the Islamic world. Thanks to its methodological rigor, its political ambition and the fact that it is rooted in the realities and aspirations of Islamic societies, this Index will be a valuable tool for informing decisions, stimulating innovation and strengthening cooperation in favor of sustainable and inclusive development through culture and creativity.

Its implementation will require a strong and sustained commitment from all ICESCO Member States and partners, as well as the mobilization of resources and talents at all levels. It will be part of a long-term vision to co-construct an ecosystem of data and knowledge on cultural and creative technologies in the Islamic world at the service of decision-makers, creators and citizens.

The next stages of this initiative promise to be full of challenges and promises, with the launch of the first pilot experiments, the implementation of an ambitious capacity building program, and the publication of the first Index report in 2024. They will require close collaboration and ongoing dialogue between all stakeholders to make this Index a shared asset and a lever of change for the societies and economies of ICESCO.

This is a call to commitment and action for all Member States to embrace this tool and make it a driving force in their national strategies for development through culture and creativity. It is also a call to mobilize all actors in the Islamic creative ecosystem, including artists, entrepreneurs, researchers and public officials, to contribute to this common edifice and help unleash the full potential of cultural and creative technologies in the Arab world.

As a leading and unifying organization, ICESCO is committed to playing a key role in this dynamic by providing a framework for collaboration, innovation and knowledge sharing at the service of its Member States. It stands ready to assist each country in the implementation of the Index by mobilizing its expertise, networks and resources in support of this shared ambition.

Together, through our commitment and creativity, we can make the ICESCO Index of Cultural and Creative Technologies a tool at the service of a new model of sustainable, inclusive and prosperous development for Islamic societies, based on the richness of our cultural diversity and the dynamism of our creative industries, a tool at the service of the future of our peoples and of humanity as a whole.

Examples of pilot projects for measuring the creative economy:

- The project "Measuring the economic contribution of cultural industries", carried out by UNESCO and the UNESCO Institute for Statistics (UIS) in 11 Asian countries, which made it possible to test a common methodology and produce comparable data on the economic and social weight of cultural industries.

- The study "The Economy of Culture in Nantes", conducted by the Observatory of Cultural Policies in France, which experimented with a multidimensional approach to measuring the cultural economy at the level of a metropolis, combining quantitative and qualitative data.

Examples of capacity building initiatives in the field of cultural statistics

- The "Strengthening capacities to measure the economic contribution of cultural industries" program of the Organisation internationale de la Francophonie (OIF), which aims to train and support French-speaking countries in the production of data on their cultural and creative industries.

- Training workshops on cultural statistics organized by the UNESCO Regional Office in Dakar (https://fr.unesco.org/fieldoffice/dakar/CLT/statistiques-culturelles), aimed at professionals from Ministries of Culture and statistical institutes in African countries to build their capacity to collect, process and analyze data on the cultural sector.

ANNEXES

Annex 1: Detailed methodology sheets for each indicator

This annex presents in detail the methodology used to calculate each of the 30 indicators selected for the ICESCO Index for Cultural and Creative Technologies. These methodological sheets aim to ensure transparency, reproducibility and comparability of the data produced by member countries.

Each sheet contains the following elements:

- A precise definition of the indicator and its components.

- Justification of its relevance and link to the objectives of the Index.

- Unit of measurement and scale of values.

- Data collection method (surveys, administrative data, big data, etc.).

- Method of calculation and standardization.

- Limitations and cautions for interpretation.

- International references and examples.

The 47 indicators are divided into 9 thematic pillars, as shown in the table below:

Pillar	Indicators
1- Digital innovation and creativity	1.1 Number of patents filed in the digital creative industries
	1.2 Proportion of cultural companies carrying out R&D activities in emerging technologies (virtual/augmented reality, artificial intelligence, blockchain, etc.)
	1.3 Number of cultural and creative technology start-ups
	1.4 Density of fab labs, makerspaces and other third-party digital creation facilities.
	1.5 Share of original digital cultural content in national consumption.
2- Skills and education in the digital era	2.1 Number of training courses specialised in cultural and creative technologies.
	2.2 Level of digital proficiency of cultural professionals.
	2.3 Place of coding and digital creativity in educational and artistic curricula.
	2.4 Percentage of cultural professionals proficient in digital creation, production and distribution tools.
	2.5 Index of transmedia skills of creators.
	2.6 Number of transdisciplinary courses combining arts, science and technology.
3- Infrastructure and access to digital culture	3.1 Number of cultural streaming platforms available.
	3.2 Coverage of the territory by very high bandwidth networks (fixed and mobile).
	3.3 Capacity and performance of data centres dedicated to storing cultural content.
	3.4 Percentage of cultural institutions offering virtual/augmented reality services.
	3.5 Index of accessibility of digital cultural content for vulnerable audiences.
	3.6 Energy consumption of cultural data centers.
4- Market and viability of the digital cultural economy	4.1 Revenue generated by digital cultural goods and services.
	4.2 Jobs created in digital cultural and creative industries.
	4.3 Value of exports of digital cultural content.
	4.4 Amount of investment in cultural technology start-ups.
	4.5 Weight of new digital business models (streaming, crowdfunding, virtual reality, NFT, blockchain) in sector revenues.
	4.6 Share of cultural and creative industries in exports of digital services.

5- Institutional and regulatory framework for culture in the digital age	5.1 Existence of a national strategy for the digital transformation of culture.
	5.2 Level of adaptation of copyright and intellectual property legislation to digital issues.
	5.3 Support mechanisms for R&D and technological innovation in the cultural sector.
	5.4 Level of protection of personal data of cultural audiences.
	5.5 Tax policy adapted to the digital economy of culture.
6- Participation and involvement of connected audiences	6.1 Penetration rate and frequency of online cultural practices.
	6.2 Household expenditure on dematerialized cultural goods and services.
	6.3 Share of user-generated cultural content in online consumption.
	6.4 Audience participation in collaborative cultural platforms and social networks.
	6.5 Level of customization and interactivity of digital cultural experiences.
	6.6 Level of trust of internet users in digital cultural platforms (data security, transparency of algorithms, fair remuneration of creators).
7- Impact and sustainability of digital culture	7.1 Carbon footprint of digital cultural consumption.
	7.2 Rate of recycling and reuse of digital cultural material.
	7.3 Index of digital accessibility for vulnerable and remote populations.
	7.4 Number of online citizen consultations on cultural policies.
	7.5 Proportion of virtual reality applications for educational and therapeutic purposes.
	7.6 Contribution of cultural and creative technologies to UN MDGs 4, 8, 9, 11 and 17.
	7.7 Percentage of digital cultural consumption with low environmental impact ("sober streaming", eco-designed equipment, etc.).
8- Data and artificial intelligence	8.1 Percentage of cultural institutions using data analytics tools to understand and target audiences.
	8.2 Number of research-creation projects combining the arts and AI.
	8.3 Percentage of artists and cultural professionals trained in the challenges and opportunities of AI.
9- Collaborations and partnerships	9.1 Number of strategic partnerships between cultural institutions and technology companies.
	9.2 Amount of Big Tech investment in cultural and creative projects.
	9.3 Number of artist residencies in digital innovation labs.

These methodological sheets will be updated and enriched during the implementation of the Index on the basis of feedback from Member States and developments in standards and practices in the field of cultural statistics.

Here is a proposed methodology for calculating the ICESCO Index for Cultural and Creative Technologies using the 47 indicators grouped into 9 pillars:

1. Data collection:

- Collect the raw data for the 47 indicators for each country.

- Check the quality and consistency of the data and deal with missing values if necessary.

2. Standardization of indicators:

- For each indicator, standardize the raw values using the min-max method:

- Standardized value = (raw value - minimum value) / (maximum value - minimum value)

- The standardization reduces all values to between 0 and 1, allowing comparisons to be made between indicators with different units.

3. Aggregation of indicators by pillar:

- For each pillar, calculate the arithmetic average of the standardized values of the indicators that make up the pillar:

- Pillar score = sum of standardized indicator values / number of indicators in the pillar.

4. Weight the pillars:

- Assign a weight to each pillar according to its relative importance in the overall index.

- For example, each pillar can be given the same weight $(1/9 \approx 0.111)$ or different weights based on expert or statistical analysis.

5. Calculate the overall index:

- Calculate the ICESCO Index for Cultural and Creative Technologies for each country by the weighted sum of the pillar scores:

- Overall Index = Sum (Pillar Score × Pillar Weight)

6. Country Ranking:

- Rank the countries in descending order of their overall index.

- The country with the highest index is considered to be the best performer in terms of cultural and creative technologies.

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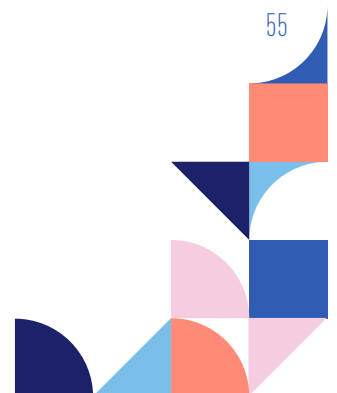
Sample calculation for a fictitious country:

1. Data collection (fictitious values) :

- Innovation and digital creativity:
  [0.8, 0.6, 0.7, 0.9, 0.5]
- Skills and education in the digital era:
  [0.7, 0.8, 0.6, 0.7, 0.9, 0.8]
- Infrastructure and access to digital culture:
  [0.6, 0.8, 0.5, 0.7, 0.6, 0.9]
- Market and viability of the digital cultural
  economy: [0.7, 0.6, 0.8, 0.7, 0.5, 0.8]
- Institutional and regulatory framework for
  culture in the digital era: [0.9, 0.8, 0.7, 0.6, 0.8]
- Participation and involvement of connected
  audiences: [0.8, 0.7, 0.6, 0.8, 0.7, 0.9]
- Impact and sustainability of digital culture:
  [0.6, 0.7, 0.8, 0.5, 0.7, 0.6, 0.8]
- Data and artificial intelligence: [0.7, 0.8, 0.6]
- Collaborations and partnerships: [0.8, 0.7, 0.9]

2. Standardization of indicators (already carried out in this example).

3. Aggregation of indicators by pillar:

- Innovation and digital creativity:
  (0.8 + 0.6 + 0.7 + 0.9 + 0.5) / 5 = 0.70
- Skills and education in the digital era:
  (0.7 + 0.8 + 0.6 + 0.7 + 0.9 + 0.8) / 6 = 0.75
- Infrastructure and access to digital culture:
  0.6 + 0.8 + 0.5 + 0.7 + 0.6 + 0.9) / 6 = 0.68

- Market and viability of the digital cultural
  economy: (0.7 + 0.6 + 0.8 + 0.7 + 0.5 + 0.8) / 6 = 0.68
- Institutional and regulatory framework for
  culture in the digital age: (0.9 + 0.8 + 0.7 + 0.6 + 0.8) / 5 = 0.76
- Participation and involvement of connected
  audiences: (0.8 + 0.7 + 0.6 + 0.8 + 0.7 + 0.9) / 6 = 0.75
- Impact and sustainability of digital culture:
  (0.6 + 0.7 + 0.8 + 0.5 + 0.7 + 0.6 + 0.8) / 7 = 0.67
- Data and artificial intelligence:
  (0.7 + 0.8 + 0.6) / 3 = 0.70
- Collaborations and partnerships:
  (0.8 + 0.7 + 0.9) / 3 = 0.80

4. Weighting of pillars (equal weights in this example):

- Weight of each pillar = 1/9 ≈ 0.111

5. Calculation of the overall index:

Overall index = (0.70 × 0.111) + (0.75 × 0.111) + (0.68 × 0.111) + (0.68 × 0.111) + (0.76 × 0.111) + (0.75 × 0.111) + (0.67 × 0.111) + (0.70 × 0.111) + (0.80 × 0.111) ≈ 0.72

This fictitious country would therefore have an ICESCO Cultural and Creative Technology Index of 0.72 on a scale of 0 to 1.

It is important to note that this methodology is a simplified proposal and that the actual methodology of the ICESCO Index could be more complex, taking into account issues such as the management of missing data, the standardization of indicators, the weighting of pillars based on statistical analysis or expert consultations, as well as sensitivity and robustness tests. The full, detailed methodology will be available on the platform dedicated to the Index.

Annex 2: List of participating countries and national focal points

This annex presents the list of ICESCO Member States that will participate in the implementation of the Index of Cultural and Creative Technologies, as well as the contact details of the national focal points appointed in each country. This list will be completed at a later stage, once all participating countries have been identified and their focal points appointed.

The focal points will be the main contacts for the central Index team within ICESCO. They will be responsible for coordinating data collection and reporting at the national level according to the methodology and standards defined for each indicator. They will ensure the quality, completeness and comparability of the data provided, drawing on national statistical systems and relevant administrative sources.

The focal points will also be responsible for validating the Index results for their countries, checking the consistency and credibility of the scores obtained in the light of their knowledge of the national context. They will be able to provide comments and suggestions for improvement to the central team in order to refine the methodology and interpretation of the results.

Finally, the focal points will play a key role in the dissemination and use of the Index at national level by facilitating its uptake by the various actors involved (policy makers, culture professionals, researchers, civil society, etc.).

They will organize events to present and discuss the results and promote the use of the Index data to inform policies and strategies for the development of cultural and creative industries.

The list includes the following information for each country:

- Official name of the country.
- Focal point reporting institution (ministry, statistical institute, etc.).
- First and last name of focal point.
- Official position.
- Postal address.
- E-mail address.
- Telephone number.
- Working languages.

This list will be constantly updated to take account of any changes in focal points or contact details. A collaborative online platform will be set up to facilitate exchanges and information sharing between focal points and the central Index team.

Regular meetings will be organized with the focal points, in person or remotely, to take stock of progress in data collection, to share good practices and common challenges, and to build the capacity of the national teams responsible for the Index.
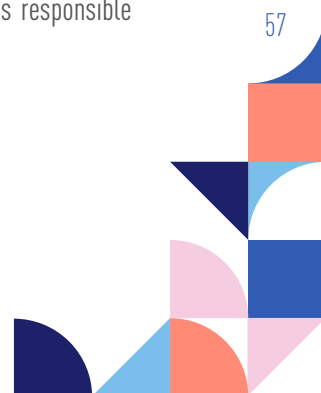
Annex 3: Glossary of key terms

This annex provides a glossary of key concepts and technical terms used in the ICESCO Index of Cultural and Creative Technologies. The aim is to clarify the meaning and scope of these concepts in order to promote common understanding and consistent use by all stakeholders.

The glossary contains about 50 entries, arranged alphabetically, covering the different dimensions of the Index, such as:

- Concepts related to cultural and creative industries (e.g.: creative economy, cultural industries, creative sectors, etc.)

- Concepts related to cultural measurement and statistics (e.g. statistical framework, indicator, administrative data, metadata, etc.)

- Concepts related to technology and digital (e.g. cultural technology, innovation, disruption, etc.)

- Terms related to public policy and development (e.g. creative ecosystem, cultural policy, sustainable development, etc.)

- Each entry in the glossary contains:

- Term or expression

- Short and clear definition

- Source of the definition (international organization, scientific publication, etc.)

- Translation of the term in the three official languages of ICESCO (Arabic, English, French)

- Concrete examples of the use of the term in the context of the Index.

This glossary has been developed through a literature review and consultation of the main international standards and references in the field of cultural statistics and creative technologies.

The glossary will be regularly updated to include new terms and concepts that emerge during the implementation of the Index. It will be made available online on the Index website to facilitate consultation and use by all stakeholders.

Here is a glossary of 50 key terms for the ICESCO Index of Cultural and Creative Technologies:

1. Creative Economy

- Definition: All activities that originate from individual creativity, skills and talents and have the potential to create wealth and jobs through the generation and exploitation of intellectual property.

- Source: UNCTAD

- Translations: الاقتصاد الإبداعي (Arabic), Creative Economy (English), Creative Economy (French)

- Example: The creative economy is a driver of growth and sustainable development for many countries.

2. Cultural and creative industries

- Definition: Sectors of activity whose main purpose is the creation, development, production, reproduction, promotion, distribution or marketing of goods, services and activities that have a cultural, artistic and/or heritage content.

- Source: UNESCO

- Translations: الصناعات الثقافية والإبداعية (Arabic), Cultural and Creative Industries (English), Industries culturelles et créatives French.

- Example: Cultural and creative industries represent a growing share of GDP and employment in the ICESCO member countries.

3. Cultural technology

- Definition: Application of digital technology to the creation, production, dissemination and consumption of cultural content and experiences.

- Source: ICESCO.

- Translations: التكنولوجيا الثقافية (Arabic), Cultural Technology (English), Technologie culturelle (French)

- Example: Cultural technologies, such as virtual reality, open up new possibilities for accessibility and the valorization of heritage.

4. Creative ecosystem

- Definition: All actors, resources and interactions that contribute to the development and sustainability of cultural and creative industries in a given territory.

- Source: ICESCO.

- Translations: النظام البيئي الإبداعي (Arabic), Creative Ecosystem (English), Écosystème créatif (French)

- Example: The ICESCO Index is intended to measure the performance of member countries' creative ecosystems.

5. Cultural data

- Definition: Unprocessed gross facts or figures relating to some aspect of cultural life, collected through censuses, surveys or from administrative files.

- Source: UNESCO Institute for Statistics.

- Translations: البيانات الثقافية (Arabic), Cultural Data (English), Data culturelle (French)

- Example: The collection and analysis of cultural data is essential to inform public policies in favor of creativity.

6. Composite index

- Definition: Aggregation of several individual indicators into a single index, based on an underlying model of the multidimensional reality to be measured.

- Source: OECD.

- Translations: المؤشر المركب (Arabic), Composite Index (English), Index composite (French)

- Example: The ICESCO Index is a composite index that combines 47 indicators grouped into 7 thematic pillars.

7. Creativity

- Definition: The ability to generate new and original ideas, solutions or products by combining imagination, knowledge and know-how.

- Source: ICESCO.

- Translations: الإبداع (Arabic), Creativity (English), Créativité (French)

- Example: Creativity is a key skill for cultural and creative workers in the 21st century.

8. Innovation

- Definition: The successful introduction of a new or significantly improved product, service or process that creates economic, social or environmental value.

- Source: OECD Oslo Manual.

- Translations: الابتكار (Arabic), Innovation (English), Innovation (French)

- Example: The ICESCO Index measures the innovation capacity of member countries in the field of cultural and creative technologies.

9. Intellectual Property

- Definition: Legal rights granted to creators and innovators to protect the use and marketing of their original works.

- Source: World Intellectual Property Organisation (WIPO).

- Translations: الملكية الفكرية (Arabic), Intellectual Property (English), Propriété intellectuelle (French)

- Example: Strengthening the protection of intellectual property is an important lever to stimulate creativity and innovation.

10. Patent

- Definition: An exclusive right granted to an inventor for an invention that prevents others from making, using or selling the invention without permission.

- Source: World Intellectual Property Organisation (WIPO).

- Translations: براءة الاختراع (Arabic), Patent (English), Brevet (French)

- Example: The number of patents filed in creative industries is a key indicator for the ICESCO Index.

11. Copyright

- Definition: Exclusive right granted to a creator for his original work, enabling him to control the use, reproduction and distribution of this work.

- Source : World Intellectual Property Organization (WIPO).

- Translations : حقوق الطبع والنشر (Arabic), Copyright (English), Droit d'auteur (French)

- Example: Income generated by copyright is an important source of funding for artists and creators.

12. Fab lab

- Definition: Digital fabrication workshop open to the public, offering access to computer-aided manufacturing tools and collaborative workspaces.

- Source: MIT Center for Bits and Atoms.

- Translations : فاب لاب (Arabic), Fab Lab (English), Fab Lab (French)

- Example: The density of fab labs and makerspaces is an indicator of a country's creative infrastructure.

13. Makerspace

- Definition: A community space where people can come together to create, invent, and learn by sharing tools, resources, and knowledge.

- Source: Makerspace.com.

- Translations : مساحة صناع (Arabic), Makerspace (English), Makerspace (French)

- Example: Makerspaces foster the emergence of creative and innovative communities at the local level.

14. Creative cluster

- Definition: Geographical concentration of interconnected firms, institutions and talent in a specific creative field, generating agglomeration effects and positive externalities.

- Source: UNESCO.

- Translations: العنقود الإبداعي (Arabic), Creative Cluster (English), Cluster créatif (French).

- Example: The ICESCO Index measures the share of creative industries in innovative clusters in member countries.

15. Creative City

- Definition: A city that places creativity and cultural industries at the heart of its development plans, promoting participation, diversity and sustainability.
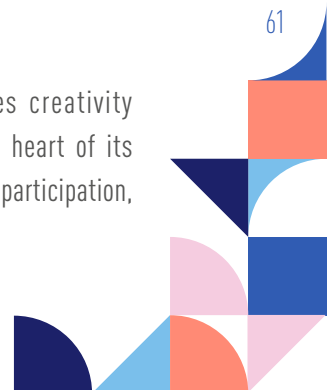
- Source: UNESCO Creative Cities Network.

- Translations: المدينة الإبداعية (Arabic), Creative City (English), Ville créative (French)

- Example: Many Islamic cities, such as Essaouira or Sharjah, are members of UNESCO's Creative Cities Network.

16. Cultural Capital

- Definition: All the cultural resources, both tangible and intangible, accumulated by an individual or a community, which can be mobilized to generate economic and social value.

- Source : Pierre Bourdieu, "Les trois états du capital culturel" ; 1979.

- Translations : رأس المال الثقافي (Arabic), Cultural capital (English), Capital culturel (French)

- Example: The ICESCO Index aims to measure and valorize the cultural capital of member countries.

17. Cultural Diversity

- Definition: The variety of ways in which the cultures of groups and societies are expressed and transmitted within and between groups and societies.

- Source: UNESCO, "Universal Declaration on Cultural Diversity" (2001).

- Translations : التنوع الثقافي (Arabic), Cultural Diversity (English), Diversité culturelle (French)

- Example: The ICESCO Index includes indicators on the diversity of cultural practices and consumption in member countries.

18. Intercultural Dialogue

- Definition: A fair and respectful exchange of views between individuals and groups belonging to different cultures in order to promote mutual understanding and social cohesion.

- Source: Council of Europe, "White Paper on Intercultural Dialogue" (2008).

- Translations : الحوار بين الثقافات (Arabic), Intercultural Dialogue (English), Dialogue interculturel (French)

- Example: Cultural technologies can be powerful tools for promoting intercultural dialogue and bringing people together.

19. Cultural Diplomacy

- Definition: The use of culture as a tool for negotiation and cooperation between states to promote national interests and universal values.

- Source: Milton C. Cummings, "Cultural Diplomacy and the United States Government" (2003).

- Translations : الدبلوماسية الثقافية (Arabic), Cultural Diplomacy (English), Diplomatie culturelle (French)

- Example: The ICESCO Index can be used as a cultural diplomacy tool to strengthen ties between member countries.

20. Soft Power

- Definition: The ability of a country to influence the preferences and behavior of others through the appeal of its culture, values, and policies, rather than through coercion or force.

- Source : Joseph Nye, "Soft Power: The Means to Success in World Politics" (2004)

- Translations : القوة الناعمة (Arabic), Soft Power (English), La puissance douce (French)

- Example: Cultural and creative industries are an important source of soft power for many countries.

21. Cultural Tourism

- Definition: A form of tourism that focuses on discovering and experiencing the tangible and intangible cultural heritage of a destination.

- Source : World Tourism Organization (WTO)

- Translations : السياحة الثقافية (Arabic), Cultural Tourism (English), Tourisme culturel (French)

- Example: Cultural tourism is an important lever for the economic development and enhancement of the cultural resources of ICESCO Member States.

22. Cultural Policy

- Definition: A set of principles, practices and government measures designed to support, regulate and guide the development of the cultural sector.

- Source : UNESCO, "Cultural Policies for Sustainable Development" (2005)

- Translations : السياسة الثقافية (Arabic), Cultural Policy (English), Politique culturelle (French)

- Example: The ICESCO Index aims to inform and guide member countries' cultural policies in support of creativity and innovation.

23. Cultural Indicator

- Definition: Quantitative or qualitative variable that measures a specific aspect of the development or cultural vitality of a country, region or community.

- Source : UNESCO Institute for Statistics

- Translations : المؤشر الثقافي (Arabic), Cultural Indicator (English), Indicateur culturel (French)

- Example: The ICESCO Index is made up of 30 indicators covering the different dimensions of cultural and creative technologies.
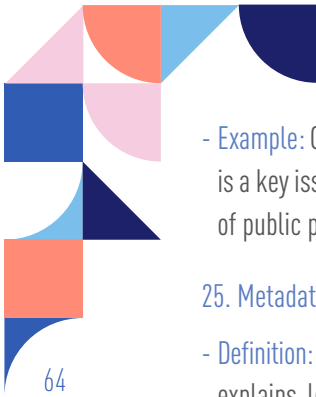
24. Cultural statistics

- Definition: A set of quantitative and qualitative data describing the different aspects of cultural life, from creation to participation, production and dissemination.

- Source : UNESCO Framework for Cultural Statistics (2009)

- Translations: الإحصاءات الثقافية (Arabic), Cultural Statistics (English), Statistiques culturelles (French)

- **Example:** Capacity building in cultural statistics is a key issue for the monitoring and evaluation of public policies in this field.

25. Metadata

- **Definition:** Structured information that describes, explains, locates or facilitates the retrieval, use or management of an information resource.

- **Source:** ISO 15836-1:2017

- **Translations:** البيانات الوصفية (Arabic), Metadata (English), Métadonnées (French)

- **Example:** The ICESCO Index will be accompanied by detailed metadata on the sources, methods and limitations of each indicator.

26. Interoperability

- **Definition:** The ability of different systems, devices or applications to exchange and use information transparently and efficiently.

- **Source:** IEEE, "Standard Computer Dictionary" (1991)

- **Translations :** قابلية التشغيل البيني (Arabic), Interoperability (English), Interopérabilité (French)

- **Example:** The interoperability of data and information systems is a key issue for the development of the ICESCO Index.

27. Standardization

- **Definition:** Activity designed to establish, in the face of actual or potential problems, provisions intended for common and repeated use, with the aim of achieving the optimum degree of order in a given context.

- **Source :** ISO/IEC Guide 2:2004

- **Translations:** التوحيد القياسي (Arabic), Standardization (English), Normalization (French)

- **Example:** Standardization of indicators is a key step in the construction of the ICESCO Index to ensure their comparability and aggregation.

28. Cultural governance

- **Definition:** A system of decision-making and management of cultural affairs involving a variety of public, private and civil society actors at different territorial levels.

- **Source:** UCLG, "Agenda 21 for Culture" (2004).

29. Cultural participation

- **Definition:** The participation of individuals and communities in cultural life, through the creation, production, dissemination and consumption of cultural goods and services.

- **Source:** UNESCO, "UNESCO Culture for Development Indicators" (2014)

- **Translations :** المشاركة الثقافية (Arabic), Cultural Participation (English), Participation culturelle (French)

- **Example:** The ICESCO Index measures the cultural participation rate of Member States' populations, as an indicator of the vitality of their creative ecosystems.

30. Cultural Inclusion

- Definition: Process aimed at ensuring equal access to and participation in cultural life for all groups in society, especially the most marginalized or disadvantaged.

- Source : Council of Europe, "Compendium of cultural policies and trends in Europe" (2021)

- Translations : الإدماج الثقافي (Arabic), Cultural Inclusion (English), Inclusion culturelle (French)

- Example: The ICESCO Index includes indicators on the accessibility of cultural facilities for vulnerable groups as a measure of cultural inclusion.

31. Cultural Sustainability

- Definition: The ability of cultural systems to maintain and develop their diversity, vitality and resilience over the long term, in interaction with their social, economic and natural environment.

- Source : UNESCO, "Culture and Sustainable Development" (2012)

- Translations : الاستدامة الثقافية (Arabic), Cultural Sustainability (English), Durabilité culturelle (French)

- Example: The ICESCO Index aims to promote sustainable cultural development models that reconcile heritage conservation and creative innovation.

32. Cultural Footprint

- Definition: All the impacts, positive or negative, direct or indirect, that a cultural activity, project or policy has on its social, economic and environmental environment.

- Source: ICESCO

- Translations: البصمة الثقافية (Arabic), Cultural Footprint (English), Empreinte culturelle (French)

- Example: The measurement of the Cultural Footprint of creative industries will be included in future editions of the ICESCO Index.

33. Digital Transformation

- Definition: A process of profound and accelerated change brought about by the integration of digital technologies into all aspects of society, the economy and culture.

- Source: OECD, "Going Digital: Shaping Policies, Improving Lives" (2019)

- Translations: التحول الرقمي (Arabic), Digital Transformation (English), Transformation numérique (French)

- Example: The ICESCO Index measures the level of digital transformation of the cultural and creative industries of Member States.

34. Creative Disruption

- Definition: The process by which an innovative product, service, or business model radically disrupts and transforms an established market or sector.
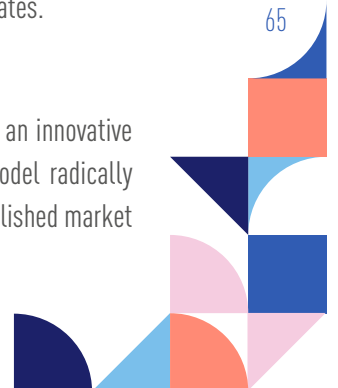
- Source: Clayton Christensen, "The Innovator's Dilemma" (1997)

- Translations: الاضطراب الإبداعي (Arabic), Creative Disruption (English), Disruption créative (French)

- Example: cultural technologies, such as augmented reality or blockchain, have the potential for creative disruption in many areas.

35. Cultural intermediation

- Definition: The function of bringing together and facilitating exchanges between creators, producers, distributors and cultural audiences.

- Source: Laurent Fleury, "Sociology of culture and cultural practices" (2016)

- Translations: الوساطة الثقافية (Arabic), Cultural Intermediation (English), Intermédiation culturelle (French)

- Example: The ICESCO Index looks at new actors and models of cultural intermediation in the digital age.

36. Knowledge Economy

- Definition: An economic system in which the production, dissemination and use of knowledge and information play a major role in value creation.

- Source: World Bank, "Knowledge for Development" (2011)

- Translations: اقتصاد المعرفة (Arabic), Knowledge Economy (English), Économie de la connaissance (French)

- Example: The cultural and creative industries are at the heart of the knowledge economy as producers and distributors of content and knowledge.

37. Information Society

- Definition: A society in which information and communication technologies play a central role in transforming social, economic and cultural relations.

- Source: UNESCO, "Towards Knowledge Societies" (2005)

- Translations: مجتمع المعلومات (Arabic), Information Society (English), Société de l'information (French)

- Example: The ICESCO Index aims to measure the contribution of cultural and creative technologies to the emergence of inclusive and diverse information societies.

38. Digital Divide

- Definition: The gap between those who have effective access to digital technologies and the Internet and those who do not, for socio-economic, geographical or cultural reasons.

- Source: OECD, "Understanding the digital divide" (2001)

- Translations: الفجوة الرقمية (Arabic), Digital Divide (English), Fracture numérique (French)

- Example: The ICESCO Index includes indicators on broadband access and digital skills to measure and reduce the digital divide in member states.

39. Digital literacy

- Definition: A set of skills that enable people to understand, evaluate, use and create digital content in different contexts in a critical, responsible and creative way.

- Source: UNESCO, "Guidelines for mobile learning" (2014)

- Translations : المعرفة الرقمية (Arabic), Digital Literacy (English), Littératie numérique (French).

- Example: The ICESCO Index will propose a synthetic indicator of the level of digital literacy of the population, especially in the cultural field.

40. Open Data

- Definition: Digital data that can be freely accessed and reused by anyone, without technical, legal or financial restrictions.

- Source : Open Knowledge Foundation, "Open Definition" (2015)

- Translations: البيانات المفتوحة (Arabic), Open Data (English), Données ouvertes (French).

- Example: The ICESCO Index is committed to publishing its data and results in open data to promote their appropriation and use by all stakeholders.

41. Metavers

- Definition: A shared, persistent virtual space, accessible via the Internet, where users can interact with each other and with digital objects through 3D avatars.

- Source: Neal Stephenson, "Snow Crash" (1992).

- Translations : ما وراء الكون (Arabic), Metaverse (English), Métavers (French)

- Example: Metavers open up new perspectives for the creation, distribution and consumption of immersive, interactive cultural content.

42. NFT (Non-Fungible Token)

- Definition: a unique, non-interchangeable cryptographic token representing a digital asset (image, video, sound, etc.) whose authenticity and ownership are certified by the blockchain.

- Source: Ethereum Foundation, "Non-Fungible Tokens" (2017)

- Translations : الرموز غير قابل للاستبدال (Arabic), Non-Fungible Token (English), Jeton Non Fongible (French)

- Example: NFTs offer new ways to monetize and add value to works of art and digital creations.

43. Artificial Intelligence

- Definition: A set of theories and technologies for developing computer programs and machines capable of performing tasks that normally require human intelligence.

- Source: McCarthy, John, "What is Artificial Intelligence?" (2007).

- Translations: الذكاء الاصطناعي (Arabic), Artificial Intelligence (English), Intelligence artificielle (French).

- Example: The ICESCO Index will focus on artificial intelligence applications in the areas of cultural content creation, analysis and customization.
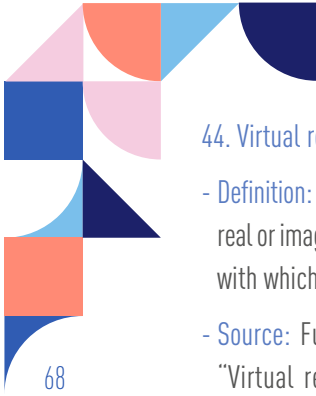
44. Virtual reality

- Definition: Immersive technology that simulates a real or imaginary three-dimensional environment, with which the user can interact in real time.

- Source: Fuchs, P., Moreau, G., & Guitton, P., "Virtual reality: concepts and technologies" (2011).

- Translations: الواقع الافتراضي (Arabic), Virtual Reality (English), Réalité virtuelle (French).

- Example: Virtual reality offers new opportunities for mediating and enhancing cultural heritage, enabling immersive and interactive tours.

45. Augmented reality

- Definition: Technology enabling virtual elements (images, sounds, text) to be superimposed on the perception of the real world, in real time and interactively.

- Source: Azuma, R. T., "A survey of augmented reality" (1997).

- Translations: الواقع المعزز (Arabic), Augmented Reality (English), Réalité augmentée (French)

- Example: Augmented reality can enrich the experience of visitors to museums and heritage sites, by providing contextual information and multimedia content.

46. Blockchain

- Definition: Transparent, secure information storage and transmission technology operating without a central controller in the form of a distributed database.

- Source: Nakamoto, S., "Bitcoin: A peer-to-peer electronic cash system" (2008).

- Translations : البلوكشين (Arabic), Blockchain (English), Blockchain (French)

- Example: Blockchain opens up new perspectives for copyright management and the traceability of works in the cultural and creative industries.

47. Participatory funding

- Definition: Method of financing projects by the public in the form of donations or investments, usually through an internet platform.

- Source: European Commission, "Crowdfunding: Mapping EU markets and events study" (2015).

- Translations : التمويل الجماعي (Arabic), Crowdfunding (English), Financement participatif (French).

- Example: Participatory financing has become an important source of funding for cultural and creative projects, especially for young talent.

48. Streaming

- Definition: Technology for streaming and playing audio and video content over the Internet without prior download.

- Source: Cambridge Dictionary.

- Translations: البث المباشر (Arabic), Streaming (English), Streaming (French).

- Example: Streaming has revolutionized music and audiovisual consumption patterns, offering unlimited and personalized access to content.

49. Gamification

- Definition: The application of gaming mechanisms and techniques to non-gaming domains with the goal of increasing user engagement, motivation, and participation.

- Source: Deterding, S., Dixon, D., Khaled, R., & Nacke, L., "From game design elements to gamefulness: Defining gamification" (2011).

- Translations: التلعيب (Arabic), Gamification (English), Gamification (French).

- Example: Gamification can be used in the cultural and creative industries to encourage learning, creation and audience engagement.

50. Platform Economy

- Definition: An economic model based on directly connecting supply and demand through a digital platform that acts as an intermediary and charges a commission on transactions.

- Source: Kenney, M., & Zysman, J., "The rise of the platform economy" (2016).

- Translations: اقتصاد المنصات (Arabic), Platform Economy (English), Économie de plateforme (French).

- Example: Music streaming or participatory funding platforms are examples of the platform economy in the cultural and creative industries.
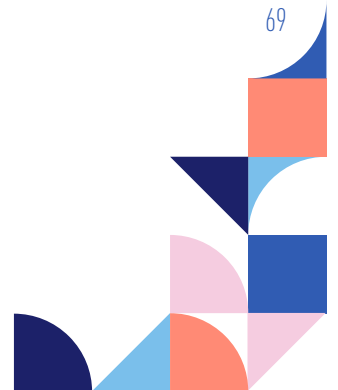
This glossary covers a wide range of key concepts related to cultural and creative technologies, from basic notions of the creative economy to the latest technological innovations. It aims to establish a common language and understanding among all ICESCO Index stakeholders, while reflecting the diversity and richness of approaches in the field.

The Glossary will be a work in progress, enriched by feedback and advances in research and innovation in the cultural and creative industries. It will be an invaluable tool for the teams in charge of implementing the Index, as well as for decision-makers, professionals and researchers wishing to deepen their knowledge and mastery of these concepts.

Finally, these annexes aim to strengthen the transparency, rigor and accessibility of the ICESCO Index of Cultural and Creative Technologies. They will be invaluable tools for the national teams in charge of implementing the Index, as well as for researchers, decision-makers and cultural professionals wishing to use and add value to the data and analyses produced within this framework.

They testify to ICESCO's commitment to a scientific, collaborative and educational approach to measuring and promoting the creative economy in the Islamic world. They also reflect the organization's determination to make this index a common asset in the service of collective intelligence and knowledge sharing among all Member States.

These annexes will be enriched and developed over time, in line with feedback, methodological innovations and new needs expressed by Index users. They will serve as a living, dynamic support for the development and appropriation of this strategic tool by all actors in the Islamic creative ecosystem.

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