

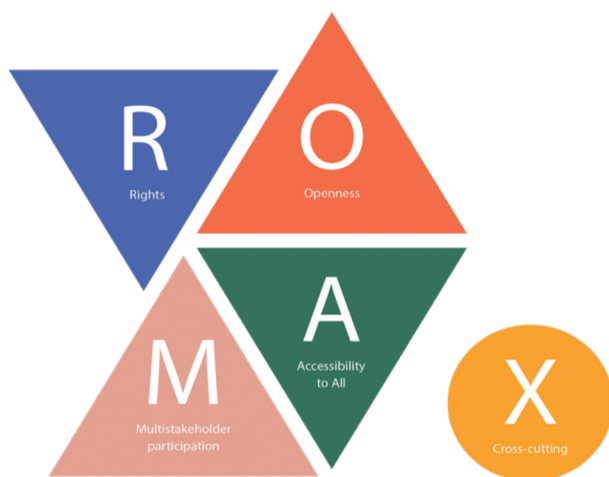
Understanding UNESCO's Internet universality framework: ROAM principles and Indicators

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From Internet Universality to ROAM-X Indicators

In November 2015, UNESCO's General Conference marked a milestone for the progression of Internet Universality through the endorsement of the CONNECTing the Dots Outcome Document⁽¹⁾. The General Conference concomitantly endorsed the concept of Internet Universality, underpinned by the ROAM principles (human Rights, Openness, Accessibility to all and Multi-stakeholder participation), as its updated position to address digital transformation and the development of frameworks for digital governance.



Graph 1: The ROAM principles and Indicators.

The ROAM principles – based on international standards – serve as the benchmark for international and national actors to come together to develop inclusive internet policies and access to information. UNESCO recognizes these four “pillars” support the growth and evolution of the Internet in ways that are conducive to achieving the Sustainable Development Goals set out in the 2030 Agenda.

The ROAM principles can be unpacked as follows:

- **R** – The Internet is based on **Human Rights**: This dimension emphasizes the importance of aligning the growth and the use of the Internet with human rights. A free Internet in this sense is an Internet that respects the human rights set out by international human rights law and that enables people to enjoy and exercise them fully. It includes the full range of inter-relationships between human rights and the Internet, such as freedom of expression, access to information, freedom of association and the right to participate in public life, gender equality, privacy, security, cultural participation, and rights concerned with education, employment and welfare.
- **O** – The Internet is **Open**: The Internet should be open for all to develop or take advantage of its resources and opportunities. This Open dimension essentially acknowledges the integrity of the Internet as enabling a common global exchange rather than it being fragmented or confined to

(1) The resolution adopted by UNESCO's 38th General Conference is available at:

https://en.unesco.org/sites/default/files/38th_gc_resolution_56_connecting_the_dots_options_for_future_action.pdf

‘walled gardens’. It highlights the importance of digital issues such as open standards and open access to knowledge and information.

- **A** – The Internet should be **Accessible to all**: The ability of all to access the Internet lies at the core of the concept of Internet Universality. This dimension encompasses the multiple issues of technical access and availability (connectivity, usage), economic and social aspects of accessibility (affordability, content, language, gender, accessibility for persons with disabilities), as well as the capabilities aspects and critical media and information literacy skills which people need to make effective use of the Internet for empowerment purposes.
- **M** – The Internet is nurtured by **Multi-stakeholder participation**: This dimension of Internet Universality emphasizes the need for multi-stakeholder participation or cooperation in Internet policy and regulation – an innovative governance model whereby a multitude of diverse stakeholders must participate in the collective development and shaping of the evolution and use of the Internet. UNESCO believes that multi-stakeholder approaches are important to both promote the developmental potential of the Internet and to maintain its universal character.

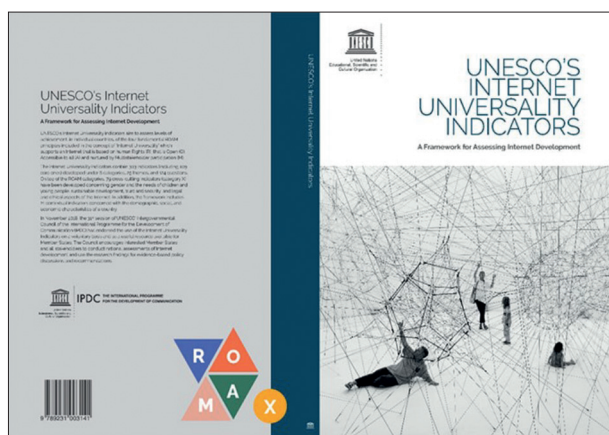


Figure 1: The publication “UNESCO’s Internet Universality indicators: a framework for assessing Internet development” which presents in detail the ROAM-X indicators and provides sources and means of verification which may be used in the assessment of indicators.

A unique strength of this framework lies in providing a holistic view and recommendations while protecting all rights in an indivisible manner, and also considering their impact on preserving Internet’s openness and accessibility in a spirit of multi-stakeholderism.

In order to apply the Internet Universality ROAM principles and provide Member States with an internationally recognized tool to assess and improve Internet policies, UNESCO’s Secretariat has developed a set of indicators through a *three-year process of global and inclusive consultations with stakeholders* during 2016-2018.

In November 2018, the Intergovernmental Council of UNESCO’s International Programme for the Development of Communication (IPDC)⁽²⁾ endorsed the voluntary use of the Internet Universality Indicators as a useful resource available for Member States. The Council encouraged interested Member States and all stakeholders to conduct national assessments of Internet development and use the research findings for evidence-based policy discussions and recommendations. In February 2019, the Bureau of UNESCO’s Information for All Programme (IFAP)⁽³⁾, also took note of Internet Universality Indicators to inform IFAP Working Groups and their future activities.

National Assessments of ROAM-X Indicators: To achieve evidence-based Internet policy reform and improvement

The UNESCO Internet Universality ROAM-X Indicators contain 303 indicators (including 109 core indicators) developed under 6 categories, 25 themes, and 124 questions. On top of the ROAM

(2) The IPDC resolution is available at: <https://unesdoc.unesco.org/ark:/48223/pf0000266235>

(3) The IFAP bureau document is available at: <https://unesdoc.unesco.org/ark:/48223/pf0000366807.locale=en>

categories, 79 cross-cutting Indicators (category X) have been developed concerning gender equality and the needs of children and young people, sustainable development, trust and security, and legal and ethical aspects of the Internet. In addition, the framework includes 21 contextual indicators concerned with the demographic, social, and economic characteristics of a country.

These Indicators are widely acknowledged as a unique and comprehensive tool relevant for all stakeholders and countries, to assess and improve Internet policies at the national level and also to foster digital collaboration at the international and regional levels. The indicators are considered complementary to other tools from OECD, ITU, and the Council of Europe (CoE). The CoE Committee of Ministers encourages its Member States to combine the assessment of the CoE Internet freedom and UNESCO’s Internet Universality Indicators. The ROAM-X framework was also acknowledged by the report of the United Nations Secretary General’s High Level Panel on Digital Cooperation⁽⁴⁾.

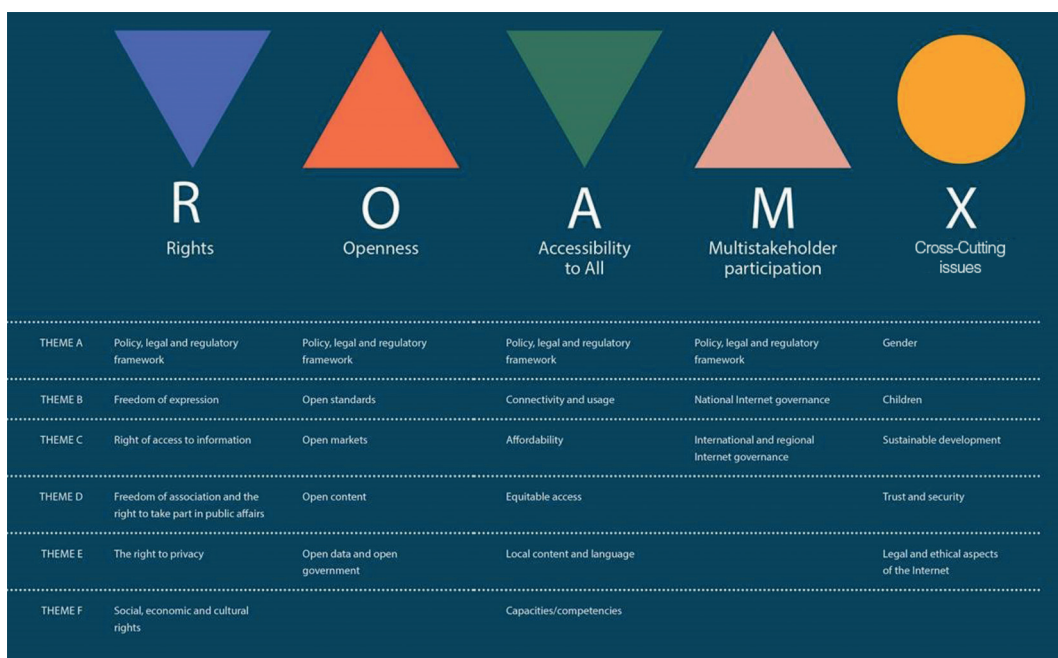


Table 1: The structure of ROAM-X indicators framework with the themes and indicators used to conduct voluntary national assessments of Internet.

The national assessments of these 303 indicators serve to present a clear and substantive understanding of the national Internet environment and policies, identify gaps in Internet Universality within a given country, and help fostering international standards and good practices in the areas of advancing human rights, openness, accessibility to all and a multi-stakeholder approach, as well as promoting gender equality, empowering youth/children and persons with disabilities in the digital age.

UNESCO has been working with stakeholders from an increasing number of countries to implement national assessments of Internet development using the ROAM-X Indicators, including Benin, Senegal, Kenya, Ghana in Africa, Thailand and Nepal in Asia, Tunisia and Sudan

(4) UN SG report “the Age of Digital Interdependence”: <https://www.un.org/en/pdfs/DigitalCooperation-report-for%20web.pdf>

in the Arab region, Brazil, Ecuador, Paraguay, Uruguay and Panama in Latin America, Germany, France and Serbia in Europe. The first completed assessment of Internet Universality indicators was in Brazil, with the report⁽⁵⁾ published by UNESCO as the first edition of the newly created Series of National Assessment of Internet Universality Indicators. The national reports of Benin, Senegal, Kenya and Paraguay are in the pipeline to be published by late 2020.

The ROAM-X indicators framework is a multifaceted research tool designed to achieve substantive and wide-ranging findings that will have real value to policy-makers and other stakeholders, and thereby improve the quality of policy-making and practice. Therefore, the methodology of the national assessment will require careful planning, sufficient time and resources for effective data-gathering and analysis, and inclusive discussion of findings and recommendations. This can be divided into the main tasks listed below – culminating in policy changes and evaluation of impact⁽⁶⁾:

- Task 1: Establishing a Multi-stakeholder Advisory Group.
- Task 2: Building a collaborative research team.
- Task 3: Developing a research plan.
- Task 4: Data gathering.
- Task 5: Data analysis.
- Task 6: Report-writing and presentation.
- Task 7: Organization of national validation workshop and related advocacy activities.
- Task 8: Impact assessment and monitoring.

Though the IUIs assessment is at the initial stage of implementation, the process has attracted high level attention and support from countries' ministers, policy makers, and multi-stakeholder actors. Its strong impact on policy improvement has been evident, with the Multi-stakeholder approach being strengthened to promote human rights in the policy making process at the national level.

In **Brazil**, an overarching recommendation for action is to consolidate and develop the national multi-stakeholder governance model, expanding the participation of the various sectors in forums and organizations related to Internet governance and telecommunications policy and regulation in the country. The government is encouraged to create an independent National Personal Data Protection Authority and a National Council for the Protection of Personal Data, complementing the normative framework put into force with the enactment of the Personal Data Protection Law.

In **Kenya**, the initial assessment shows laws and policies are widely provided for human rights, but implementation of key policies and legislation remains a challenge. Thus, it remains a crucial task to improve the implementation of policies and laws, enhance institutional capacities, as well as build public awareness.

Across all existing assessments, a common challenge identified is the **gender divide** present in many countries, and the need to ensure that digital technologies are available to all, especially girls and women. Without involving more women in Internet policymaking, with the capacity to better understand capacity and needs, digital gender inequalities are likely to persist. Another shared recommendation in several national assessments is to build and update media and information literacy skills into national education systems and to strengthen women and girls' ability to define, access, manage, integrate, communicate, evaluate and create information safely and constructively for their digital participation in economic and social life.

(5) The Brazil assessment report is available at: <https://unesdoc.unesco.org/ark:/48223/pf0000372330.locale=en>

(6) More details are at the chapter 10 of the implementation guide of assessing ROAM-X indicators: <https://unesdoc.unesco.org/ark:/48223/pf0000367617.locale=en>

Shaping AI and advanced ICT policies through ROAM Prism

In its recent publication “Steering AI and advanced ICTs for knowledge societies: a Rights, Openness, Access, and Multi-stakeholder Perspective”, UNESCO established that Internet Universality ROAM principles serve as a well-grounded and holistic framework for stakeholders to help shape the design, application, and governance of Artificial Intelligence (AI), also since AI and other new technologies have been evolving within the ecosystem of the Internet.

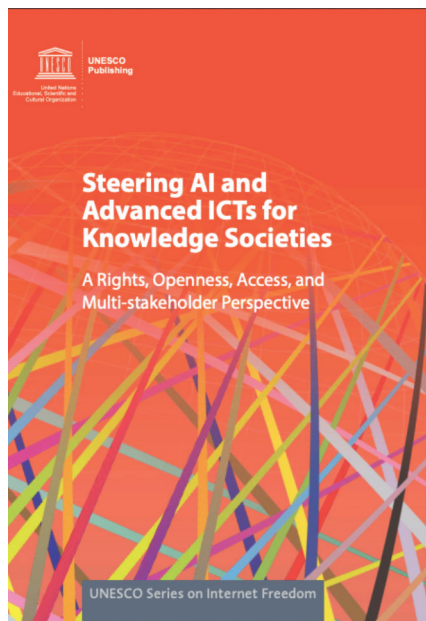


Figure 2: UNESCO publication: “Steering AI and advanced ICTs for knowledge societies: a Rights, Openness, Access, and Multi-stakeholder Perspective”.

form an opinion, but simultaneously it weakens pluralism of information. Open data can help lower barriers to entry to AI, but at the same time AI can pose a threat to privacy through de-anonymization through triangulation using open data sets. In terms of access, a major challenge is to face the growing “AI divide” between and within countries; but at the same time, AI can be a tool to enhance access for persons with disabilities or advance multilingualism.

The gender dimension needs to be underlined to ensure the development of AI in line with gender equality objectives. As a UNESCO Global Priority, many African countries face the AI divide and need more AI-related support, including through the development of policy frameworks and local capacities.

This UNESCO publication thus recommended to carry out assessments based on the Internet Universality ROAM-X Indicators to measure human Rights, Openness, Accessibility to all and Multi-stakeholder participation, and to thereby map and improve the ecosystem in which AI is developed, applied, and governed.

As pointed out in the publication, AI is increasingly becoming the veiled decision-maker of our times. Its constitutive elements of data, algorithms, hardware, connectivity and storage exponentially increase the power of Information and Communications Technologies (ICTs). This is a major opportunity for sustainable development, with concomitant risks that also need to be addressed while the distribution of AI power is uneven across multiple and dispersed centres within governments, the private sector, the technical community, civil society and other stakeholders worldwide.

Therefore, the ROAM principles and particularly the multi-stakeholder engagement around AI is vital. The ROAM principles urge that digital development be aligned with human Rights, Openness, Accessibility and Multi-stakeholder governance to guide the ensemble of values, norms, policies, regulations, codes and ethics that govern the development and use of AI.

In terms of the Rights dimension, content personalization by AI can be seen as enhancing how people use their right to seek information and to

Conclusion: Advancing ROAM and the multi-stakeholder approach in global Internet governance and digital transformation

As defined in the Tunis Agenda⁽⁷⁾ of the World Summit on the Information Society (WSIS), Internet governance means “the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet”.

When addressing the challenges faced by stakeholders in Internet governance areas, UNESCO perceives the need to develop the Internet and other digital technologies (including Artificial Intelligence, Big Data, 5G, IOTs and other digital technologies) along the values of the Internet Universality concept. All these new digital technologies require continual ethical reflection and holistic review to foster opportunities and mitigate risks arising from them.

In particular, cooperation among stakeholders in these areas should take the form of multi-stakeholder participation: the effective participation, partnership and cooperation of all stakeholders in the collective development and use of the Internet and other digital technologies, including Governments, the private sector, civil society, international organizations, the technical and academic communities, as well as all other relevant stakeholders.

The UNESCO publication “What if we all governed the Internet? Advancing multistakeholder participation in Internet governance” identifies a range of values to underpin the principle of multi-stakeholder participation, i.e, that multi-stakeholder mechanisms need to be: inclusive, diverse, collaborative, transparent, equal, flexible and relevant, safe and private, accountable and legitimate and responsive.

The multi-stakeholder principle stresses the importance of dialogue to balance interests, aggregate wisdoms, and build consensus and legitimacy on Internet and other digital technologies. Multi-stakeholder participation works to ensure equitable access to different interests and to take decisions through the interaction of these participating interests, thus allowing for these digital technologies to maintain a universal character and utility.

However, there is a global challenge to applying the ROAM principles and to multi-stakeholderism: unilateral decision making is increasing at the level of principles, norms, rules, and policy-making procedures in different spheres, which potentially undermines human rights, openness and accessibility pillars of the Internet. There is a need to ensure better stakeholder representation through the implementation of multi-stakeholder mechanisms, which will mitigate the unilateral power of single actors (be they governments or companies) and ensure that all stakeholders are involved, and that their voices are heard.

In conclusion, UNESCO’s “Internet Universality ROAM” principles and indicators constitute a robust and comprehensive way to tackle the complexities of multiple challenges in the digital age. Stakeholders can profitably co-operate in implementing the ROAM indicators as a way to develop shared evidence-based policy recommendations of use to governments, regulators, parliamentarians, companies, and academia.

UNESCO seeks to engage with its Member States and all stakeholders worldwide to promote Internet Universality, and to encourage the voluntary national assessments based on the ROAM-X indicators to bring about a better Internet for all, and ultimately, meet the Sustainable Development Goals.

(7) The Tunis Agenda of WSIS is available at: https://www.itu.int/net/wsis/documents/doc_multi.asp?lang=en&tid=2267|0

Bibliography

UNESCO (2009), *UNESCO Series on Internet Freedom*, from UNESCO: <https://en.unesco.org/unesco-series-on-internet-freedom>

UNESCO (2015a), *Keystones to foster inclusive Knowledge Societies*, from UNESCO: https://unesdoc.unesco.org/ark:/48223/pf0000232563_eng

UNESCO (2015b), *Outcome document of the “Connecting the dots: Options for Future Action” Conference*, from UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000234090>

UNESCO (2017), *What if we all governed the Internet? Advancing Multi-stakeholder participation in Internet governance*, from UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000259717.locale=en>

UNESCO (2018b, July-September), *The UNESCO Courier: Artificial Intelligence, The promises and the threats*, from UNESCO: <http://unesdoc.unesco.org/images/0026/002652/265211e.pdf>

UNESCO (2019a), *UNESCO’s Internet Universality Indicators: a framework for assessing Internet development*, Paris: UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000367617.locale=en>

UNESCO (2019b), *UNESCO’s Internet Universality Indicators leaflet*, Paris: UNESCO: https://unesdoc.unesco.org/ark:/48223/pf0000370288_eng.locale=en

UNESCO (2019c), *Steering AI and Advanced ICTs for Knowledge Societies: a Rights, Openness, Access and Multi-stakeholder Perspective*, Paris: UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000372132>

UNESCO (2019d), *Steering AI and Advanced ICTs for Knowledge Societies leaflet*, Paris: UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000368711.locale=en>

UNESCO (2019e), *Assessing Internet in Brazil: Using UNESCO’s Internet Universality ROAM-X Indicators*, Paris: UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000372330.locale=en>

UNESCO, *International and regional instruments*, https://en.unesco.org/international_and_regional_instruments