

Opportunities to open public data and data of scientific institutions for the Maghreb countries

Hakim Benoumelghar Hakim.benoumelghar@ummtto.dz	Librarianship and Information science	Mouloud Mammeri University of Tizi-Ouzou / Algeria
DOI :		

Received: 08 /04/2025

Accepted: 12 /05/2025

Published: 19 /06/2025

Abstract :

This contribution aims to define this new concept of Open data, to trace its genesis in scientific writings and its application by institutions and companies and its supervision by governments around the world and attempt to address issues related to the prospects of opening up data and the expected benefits of third-party use in the Maghreb region.

Keywords: Open public data; Open scientific data; Opportunity; Algeria; Tunisia; Morocco

Introduction

Open data or Open Data in English is data available under a free license intended for reuse and redistribution by any person. They come in different formats (XSL, CSV, RDF, TXT, PDF, etc.), in structure and semantics and cover several areas of human activity like politics, health, commerce, etc...(Berro, A; Megdiche, I, 2013).

The problem of this paper is as follows:

What opportunities are offered for Maghreb countries to join this universal movement to free public, research and business data? (Movement which follows the other trend; making scientific and technical documents available on the Internet without any financial, technical or other barrier, in other words free access (Open Access).

To clarify this problem, we formulated the following questions:

- How can the countries of the Maghreb region implement a strategy or initiatives aimed at opening up data and for what purposes, in light of what is being done in the pioneering countries in this area?
- Which sectors are primarily concerned by this action for the development and improvement of services and the encouragement of scientific research and transdisciplinary collaborations?

- What role should information professionals play in Maghreb countries to ensure better access and better intermediation between data providers and different users?

1. Literature Review

1.1 Definition of Open Data:

The term open data first appeared in 1995, in a document from an American scientific agency. It is about the opening of geophysical and environmental data.

“The idea of the common good applied to knowledge has already been theorized, well before the invention of the Internet. Robert King Merton is one of the fathers of the sociology of science. The theory that bears his name shows the benefit of opening up scientific data. It is important, explained Merton in 1942, that the results of the work be freely accessible to all. Each researcher must contribute to the “common repository” and waive intellectual property rights to allow the advancement of knowledge” as writed in Paris Tech Review, 2018.

The winner of the 2009 Nobel Prize in Economics, Elinor Orstrom, has demonstrated through her work the particularity of the information commons. These are similar to public goods, because their use by one does not call into question the use by the other. But these are public goods of a unique kind: “not only does their use not impoverish the common stock, but on the contrary it enriches it.”, reported by Filippi de, P., Bourcier, D., 2014.

Open data, or the opening of public data, consists of disseminating data emanating from the daily work of administrations to allow anyone to use them free of charge. They are demographic, geographical, meteorological, economic, financial, tourist data...etc as defined by the same authors. The data is made available for the production of studies, press articles using data journalism, mobile applications, online data visualization services or even infographics. Legally, they are associated with so-called open licenses deriving from Creative Commons.

Open data has developed as a continuation of transparency policies and the fight of civil society to recognize citizens' right of access to information produced by administrations. Already, the Declaration of the Rights of Man

and of the Citizen of 1789 stipulated in its article 15 that “society has the right to demand accountability from any public agent for its administration”.

After the Second World War, the concept of Open Government emerged, which originally designated citizens' right of access to state secrets. In the United States, the denunciation of the opacity of the army during the Vietnam War led to the adoption in 1966 of the Freedom of Information Act which obliged the federal agencies of the United States to transmit their unclassified documents to every citizen who requests it.

In 1976, in France, the Commission for Access to Administrative Documents (CADA) law copied these provisions and gave the commission of the same name the last word in the event of a dispute. The law only concerns public information, that is to say documents produced or received as part of a public service mission. The right of access to public information is enshrined in law in most democracies. The open data movement has supplemented this right by defining principles that facilitate the technical reuse of data and encourage the administration to make access to this data possible free of charge.

1.2 Principles of open data:

Open data is characterized as follows (Branislav M, 2015):

- they must be complete and made public as they stand,
- they must be raw,
- they must be available as soon as possible,
- they must be accessible,
- they must be structured to be able to undergo computerized processing,
- they must be free of rights

1.3 Open data, Big data?

Big data is more particularly interested in the exploitation of an exponentially growing volume of data. In open data, value creation involves sharing this data and making it available to third parties rather than a volume effect. Open data meets a set of technical, economic and legal criteria: it must be freely and freely accessible online, in a format that allows reuse.

1.4 Open data and open source, public data, open data?

Openness is the common vector of open source, open government and open data approaches. It represents both a philosophy of action and a profession of faith, a practice and an objective.

Open data attempts to introduce a reversal of logic: by default, public data and information must be published online - even before being requested by third parties.

Open data responds to a set of issues, both political and economic: “From the opening of data we expect democratic benefits (better transparency of public action, citizen participation, response to the crisis of confidence vis-à-vis - vis-à-vis elected officials and institutions) but also the creation of economic value through the development of new activities based on open data. »¹, this is the objective of the process of opening public data.

1.5 From Open Data to Open Government:

The prospects for economic growth have created political enthusiasm for open data. The opening of public data has long aroused strong interest among information industries and governments who see it as a possible “new oil”.

A pivotal year saw the emergence of the term Open Government Data, 2007, where a meeting was held in Sebastopol, California. The so-called Sebastopol principles, established by digital activists, call for the release of public data as soon as it is produced, in its entirety and as it is collected. This request for “raw” data aims to generate citizen counter-expertise by reducing information asymmetries. Citizens and businesses alike could then redo the calculations, have data at the local level rather than being satisfied with aggregates and challenge public decisions with the same data as the administration.

At a more institutional level, the Sebastopol principles have led to a proliferation of portals around the world with the launch of data.gov in the United States in 2008, data.gov.uk in the United Kingdom in 2009 or data.gouv.fr in 2011 in France. In 2013, the principles established in Sebastopol were taken up by the G8 to state that the opening of data will become the default practice for signatory administrations. And subsequently by the G20 “which recognized open access to data on agriculture and

nutrition as an essential condition for achieving Sustainable Development Goal 2: “zero hunger” (GODAN Initiative, 2014).

The objective was to encourage open access to agricultural and nutritional data in order to make governments more accountable for achieving nutrition goals and to promote agriculture through access to a wide variety of data.

1.6 Use of public data:

The political decision to oblige administrations to provide access to the data produced involves training citizens in the methods of exploitation and the possible uses of these data deposits. The issues around this training are twofold:

- “The first consists of successfully training the whole of society in the issues of production and use of data which concern society. This objective can be achieved by the development of “infolab” type devices, hybrid spaces where technicians and citizens interact to learn how to use data, or by the mobilization of digital public spaces (EPN) to achieve this “data education”.
- The second consists of using data available in open data in school programs to illustrate problems encountered in class using real cases. Thus, data on the environment, citizenship and even geography are already available and could be used to provide case studies.” (ParisTech Review, 2018).

1.7 Open data vs Opening of public data:

Data is, in essence, multi-use. But the opening of public data is not the same as open data. We could also contrast the French tradition of open data established by the 1978 law and the original Anglo-Saxon tradition of open data, much more recent and very different in spirit. In the first case, the aim is, within an organized framework, to facilitate the reuse of data produced by the State and local authorities. This is very often a contractual framework which defines the content, formats and methods of provision, as well as the type of reuse. This provision, where applicable, may be subject to payment.

In the first case, the aim is, within an organized framework, to facilitate the reuse of data produced by the State and local authorities. This is very

often a contractual framework which defines the content, formats and methods of provision, as well as the type of reuse. This provision, where applicable, may be subject to payment.

Open data is based on a different logic: “from the outset, it is about encouraging reuse as much as possible, by removing as many barriers as possible, both legal, technical and financial (GODAN Initiative, 2014).

Founded in 2011, the Open Government Partnership is a multilateral initiative that promotes the improvement of public governance through new technologies. Pursuing the objective of more transparent and open public action, the Partnership brings together 70 States and several hundred civil society organizations who share a common ambition, to use technology in the service of strengthening democratic ethics and public integrity.

The United Nations recently recognized digital technologies as a tool for implementing the “Peace, justice and effective institutions” objective of the 2030 Agenda for Sustainable Development.

2. Methods and Materials

In this section, the author has to describe clearly and precisely how, where and when the research is conducted.

2.1 Participants:

We have chosen three Maghreb countries, which have experimented with open data projects, namely: Tunisia, Morocco and Algeria and which are described below:

2.2 Research Procedures:

The content of literature showed in the websites related to open data is analyzed and compared

2.3 Results :

2.3.1 Open Data in Tunisia:

Following the 2011 revolution, Tunisia took initiatives aimed at enshrining the notion of open government. This approach began first with the promulgation of several legislative and regulatory texts facilitating access to information and the opening of data relating to access to the administrative documents of public bodies.

“Other initiatives have been taken by the Tunisian government reflecting its desire to establish an open Government particularly in terms of the fight against corruption, the strengthening of the transparency of public action, and the adoption of a participatory approach in the development of public policies (Acteurs publics, 2016).

To cite as an example:

- the public consultation portal “www.consultations-publiques.tn” launched since April 2012,
- the website “www.anticorruption-idara.gov.tn” launched in December 2012,
- the national public purchasing platform “www.tuneps.tn” launched in January 2013,
- Open Data platforms such as “<http://www.data.gov.tn/>” and “<http://interieur.gov.tn/>”
- the open data platform of the national statistics institute <http://dataportal.ins.tn/> launched in November 2014.

These efforts were further strengthened “by the accession of Tunisia on January 14, 2014, to the “Open Government Partnership” (OGP) initiative. Founded by seven countries: Brazil, Indonesia, Norway, Philippines, South Africa, the United Kingdom and the United States in 2011 and it aims, through the promotion of greater transparency of the State, to greater participation citizens and more effective collaboration between the different actors in society.

Each member country of the initiative must develop a national action plan covering a period of two years and this, in consultation with civil society, the major challenge(s) in which they wish to invest, as well as the commitments they agree to make in this perspective.

The Open Knowledge Foundation (OKF) ranks Tunisia in 2014 in the “Open Data Index”. in 63rd place out of 97 countries audited with a degree of openness estimated by the OKF at 34%, Some developed countries are classified and evaluated by openness percentages as follows: the United Kingdom (97%), Denmark (83%) or France (80%).

In the ranking of statistical offers published by OPEN DATA WATCHⁱⁱ in the ODIN (Open Data Index), Tunisia is ranked 14th out of 125 countries, first North African country and first Arab country and second African ranking.

This ranking of Tunisia is the result of a statistical dissemination and communication strategy deployed by the National Institute of Statistics, focused on the web dissemination of official statistics.

Indeed, the Tunisian statistics body has started a program to modernize the dissemination strategy by setting up a new data portal and dedicated websites, guaranteeing better accessibility to dataⁱⁱⁱ.

Through institutional and Open Data platforms, Tunisia wants to enable its citizens to carry out several procedures from the Internet and take part in political decisions:

- An OpenData platform
- An e-participation platform (participatory democracy)
- The government portal

Tunisian citizens now have access to Open Data from ministries, online procedures and can interact with government authorities.

Tunisia thus shares its key information to establish a relationship of trust with its citizens. The data is classified into different themes: Industries, culture, transport, security, agriculture, etc.

2.3.2 - Open Data in Morocco:

Morocco operated the first open data initiative in 2011 through the data.gov.ma website. It was in 2014 that the site was put online by the digital economy department. It already brings together around sixty files shared by different departments and many more to come.

Open Data in Morocco is a good source for business, more precisely that of FDI (Foreign Direct Investment). It is noted that an investor, whether Moroccan or foreign, must have public data so that he can carry out his market research. It is also essential for developers and entrepreneurs to enable them to create new economic opportunities and thus develop innovative services.

With targeted open data, we have the possibility of visualizing the taxation of a region or the list of public procurement awardees.... These different data will serve as a fruitful source to be used by researchers, investors, journalists, students, and developers as part of their various studies which can lead, among other things, to a modernization of public services.

The success scenario for Open Data in Morocco is based on two main stages (Conseil économique, social et environnemental, 2013):

- “a first “setting in motion” stage, during which the legal, institutional and operational mechanisms for the release of public data must be defined and implemented
- a second stage of development of a balanced ecosystem around Open Data, favoring the creation of added value and ensuring the sustainability of the system.”

2.3.3 Open Data in Algeria:

Seminars are held periodically on Open Data in Algeria in order to raise awareness among those in power on the issues of this policy aimed at the release of institutional data for socio-economic and scientific actors but no State strategy is to be reported in this chapter with the explicit title of opening public data. However, E-Government is progressing with online services, especially those aimed at obtaining administrative documents via platforms of central administrations and local authorities. An information portal on the different approaches concerning the life of the citizen was set up in 2010 (www.elmouwatin.dz). Recently replaced by the portal www.bawabatic.dz and since then electronic services and free call centers abound in different sectors.

Also note the launch of Data Algeria Portal (<http://portal.dataalgeria.cerist.dz/>) in 2016 providing access to national scientific production, open data from the academies of national languages: Arabic and Tamazight and also the scientific production of the research center on the national movement and the revolution of November 1954.

The National Statistics Office periodically publishes reports online with figures on social and economic life. Ministerial departments, national directorates, and local authorities put certain data and reports online on their respective websites for information and in an approach aimed at ensuring transparency of their operation and activity.

Open data, and more particularly government data, “is a valuable resource. Many individuals and other businesses collect different types of data in an effort to better perform their tasks.

3. CONCLUSION

When large companies or governments provide access to non-personal data, it allows small businesses, citizens and researchers to develop resources that provide crucial improvements for their communities.

Open Data makes it possible to improve everyday life financially, socially, culturally and more. It allows easier access to health services and more effective discovery of new treatments for diseases. It offers the opportunity to better understand governments and to travel more easily. New possibilities are being discovered all the time.

Having the vocation of collecting, processing and transmitting information (all types combined), information professionals must become much more involved in guiding potential users of Open Data, by categorizing and disseminating according to the different categories of the latter open data to enable the creation of added value, new services and by boosting research by making available the data released by the public administration.

References:

Berro, A., Megdiche, I., & Teste, O. (2013). Vers l'intégration multidimensionnelle d'Open Data dans les entrepôts de données. Presented at the 9èmes Journées Francophones sur les Entrepôts de Données et l'Analyse en ligne (EDA 2013), Blois, France, pp.101-110. Retrieved from <https://hal.science/hal-04083749v1> (2019, (October 10/ H : 19 :10).

Branislav Meszaros, Sitthida Samath, Sonia Guérin-Hamdi, Céline Faure. Livre blanc sur les données ouvertes. 2015. Retrieved from <https://shs.hal.science/halshs-01162692v1> (2020, January 05/ H: 18:20).

Acteurs Publics , A. P. (2016, June 3). L'ouverture des données publiques ne se confond pas avec l'open data. Retrieved from <https://acteurspublics.fr/articles/louverture-des-donnees-publiques-ne-se-confond-pas-avec-lopen-data/> (2018, November 06/ H: 16:45).

Goëta, S., & Mabi, C. (2014). L'open data peut-il (encore) servir les citoyens ? Mouvements, 3(79), 81–91.

Retrieved from: <https://www.cairn.info/revue-mouvements-2014-3-page-81.htm> (2018, June 20/ H: 18:20).

GODAN (Global Open Data for Agriculture and Nutrition) Initiative. 2014. Retrieved from <https://www.cta.int/fr/projets/godan.html#:~:text=Le%20G20%20a%20recogni%20l,%3A%20la%20%C2%AB%20faim%20z%C3%A9ro%20%C2%BB>. (2023, May 20/ H: 16: 50).

Noyer, J.-M., & Carmes, M. (2013). Le mouvement « Open data » dans la grande transformation des intelligences collectives. In Les débats du numérique. Paris: Presses des Mines. Retrieved from: <https://books.openedition.org/pressesmines/1666?lang=fr> (2018, June 25/ H: 21:30).

Ministère de l'Industrie, de l'Energie et des Mines, M. de l'Industrie, de l'Energie et des Mines. (n.d.). L'open data: un nouveau vecteur pour l'instauration de la bonne gouvernance. Retrieved from: <http://data.industrie.gov.tn/lopen-data-un-nouveau-vecteur-pour-linstauration-de-la-bonne-gouvernance/>

(2018, June 25/ H: 22: 30).

ParisTech Review (2018). A brief history of Open Data.

Retrieved from: <http://parisinnovationreview.com/article/une-breve-histoire-de-lopen-data>

(2018, June 25/ H 16: 30).

National open data portal of the Kingdom of Morocco.

Retrieved from: <http://data.gov.ma/fr/actualites/les-donn%C3%A9es-ouvertes-aumaroc> (201, June 25/ H: 22: 40).

Filippi de P., Bourcier, D. (2014). "Open data": l'ouverture des données. [Edition générale], La semaine juridique. 2014, pp.42.

Retrieved from: <https://hal.science/hal-01026098/document>

(2018, June 25/H: 17:15).

Conseil économique, social et environnemental, C. (2013). Rapport annuel. Retrieved from: http://www.ces.ma/Documents/PDF/Avis-AS_14_2013_VF.pdf (2018, June 25/H: 21: 20).
