universität wien

MASTERARBEIT/ MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

"Digital Technology for the improvement of Transparency in International Development: A Case Study of UNIDO Open Data Platform"

verfasst von / submitted by

Antonio Olmeño López, BA

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Arts (MA)

Vienna, 2018

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	A 066589
Studienrichtung lt. Studienblatt / degree programme as it appears on the student record sheet:	Masterstudium Internationale Entwicklung
Betreut von / Supervisor	Dr Reena Mary George, MA

Acknowledgments

I wish to present my special thanks to UNIDO staff and to all the participants in the User-Experience and online survey because without their help this research would not have been possible.

I would like so to express my gratitude to Josef van der Voort for of his assistance and to Markus Gatschnegg for explaining me the complex administrative process. A very specially thank you to Reena Mary George.

Abstract

Transparency is a contested term in the field of international development. Over years, the concept of transparency has evolved and it has often been interchanged with terms such as accountability, responsibility, good governance, etc. There are several factors that play a role to increase transparency, however, over last years, digital technology represented one of the most crucial tools in every transparency initiative. This study focuses on the Open Data Platform of the United Nations Industrial Development Organization (UNIDO). The goal was to explore how new digital technologies increases transparency and accountability initiatives in the field of international development. This study used a qualitative approach in order to understand the needs of the users, identify if the platform made the information accessible, easy to use and convenient and understand how digital technologies improved the interaction between users and information disclosers. The results firstly highlighted the needs of the users, which were quite different from the needs perceived by the organization; secondly it revealed user-experiences concerning convenience, accessibility, role of technology and the usability of the platform; and finally, it divulged the importance of bi-directional interaction to improve transparency. The study concludes that there are concrete factors which receive an objective impact of the Open Data Platform of UNIDO with regards to transparency. Finally, this study carves a path to various methods that could improve transparency through digital technologies, mainly through Open Data Platforms, in international organizations.

Abstrakt

Transparenz ist ein umstrittener Begriff auf dem Gebiet der internationalen Entwicklung. Im Laufe der Jahren hat sich das Konzept der Transparenz weiterentwickelt und es wurde durch Begriffen wie Rechenschaftspflicht, Verantwortlichkeit, gute Leitung usw unklarer. Es gibt mehrere wichtige Faktoren, um in den letzten Jahren durch Digitaltechnik Transparenz zu schaffen. Diese Studie konzentriert sich auf die Open Data Platform der Organisation der Vereinten Nationen für industrielle Entwicklung (UNIDO). Ziel war es zu untersuchen, wie neue digitale Technologien die Transparenz und Rechenschaftspflicht im Bereich der internationalen Entwicklung erhöhen. Diese Studie verwendete einen qualitativen Ansatz: Erstens um die Bedürfnisse des Nutzers zu verstehen und herauszufinden. Zweitens, wie benutzerfreundlich und zugänglich die Platform ist. Drittens, zu verstehen, wie digitale Technologien die Interaktion zwischen Nutzern und Offenlegung von Informationen verbessern. Die Ergebnisse zeigten einerseits die Unterschiede der Bedürfnisse der Nutzer, die sich stark von den Bedürfnissen der Organisation unterschieden. Andererseits, wurden Nutzererfahrungen wie Komfort, Zugänglichkeit, Rolle der Technologie und die Benutzerfreundlichkeit der Plattform aufgezeigt. Schluss endlich, kommuniziert diese Studie die Wichtigkeit der bidirektionalen Interaktion, um die Transparenz zu verbessern. Die Studie kommt zu dem Schluss, dass die Open Data Platform der UNIDO in Bezug auf Transparenz von konkreten untersuchten Faktoren objektiv beeinflusst wird. Schließlich wird in dieser Studie ein Weg zu verschiedenen Methoden aufgezeigt, die die Transparenz durch digitale Technologien - hauptsächlich durch offene Datenplattformen - in internationalen Organisationen verbessern könnten.

List of tables

Figures Index

Table of Contents

Chapter One: Introduction

1.1. Introduction

The last innovations regarding Information and Communication Technology (ICTs) represent a revolution to improve transparency in Intergovernmental Organizations (IGOs) as well as to reduce corruption within the development field (Daniel Freund et al. 2016). Simultaneously, since the release of the High Level Panel report on the post- 2015 Development Agenda, repeated calls have been made for a "data revolution". How this is defined is not entirely clear, but there is growing consensus that as a basic principle, it must be underpinned by open data and new digital technologies, given its potential to strengthen accountability and encourage greater participation in political processes ("Publish", n.d. Why it matters, para.1). Hence, most of the IGOs are developing open data initiatives and have started to integrate new technologies in their platforms. For this integration they accomplish the International Aid Transparency Initiative (IATI) Standards. One of their main institutional goals is to offer open access to information to all implied stakeholders and transform all relevant data into machine readable formats, accessible through user friendly dashboards.

In short, there is growing willingness by the IGOs in promoting transparency where digital technology represents a unique chance to display promising initiatives and distribute large amounts of data worldwide in a few seconds. Nonetheless, the concept of transparency is extremely complex and is related with other important notions such as accountability and participation. Besides, technology development process represents only around 7% of the work in a digital project, while the rest is outreached by people (Byarugaba et al., 2014). Moreover, as Fung said: "technology is not good or bad neither neutral. Whether or not an intervention is successful its end depends upon elements of the socio-political context in which the intervention occurs" (Fung, Gilman & Shkabatur, 2010, p.15). Thus, the goal of the present research is to draw a clearer picture on how new digital technologies contribute to improve transparency and accountability initiatives of Inter-Governmental Organizations (IGOs) in the field of international development.

This study focuses on the digital Open Data Platforms developed by IGOs during the last years in international development field. There are lot of promising initiatives such as the platforms designed by the "African Development Bank" (AfDB), The "United Nations Development Programme" (UNDP) or the "UK international development Agency". This study focuses on the digital Open Data Platform of the United Nations Industrial Development Organization (UNIDO). UNIDO is one of the United Nations (UN) agencies whose primary objective is the promotion and acceleration of industrial development in developing countries and countries with economies in transition and the promotion of international industrial cooperation.

1.2. Background and Statement of the Problem

As Fung suggests, the success of a digital transparency initiative depends to some extent on elements of the socio-political context. In international development field there are many implied stakeholders who are linked with each other and have a totally different approach and participation in international aid. Besides, the improvement in transparency represents or is associated with higher effectiveness in international aid. Within this context there are several opinions and perceptions concerning the strengths and weaknesses of the aid's policy performance during the last years. Nonetheless, all implied stakeholders agree in the potential of digital technologies to increase transparency.

However, the potential for increase in transparency does not exist without a certain paradox. On the one hand, there is an increasing debate on the lack of effectiveness and transparency in the field of international aid. Supporters of the post-development theory such as Arturo Escobar and Gustavo Esteva defend that despite some post-war gains in social and economic development, since the 1980s there has been a widespread recognition of the failure of international development to alleviate poverty and reduce inequalities within and between regions (Kothari, 2005). They remark as well that international aid instead of being effective to fight poverty, has represented a "western-designed" machinery encompassing departments and bureaucracies to hide the transition from colonial rule to the neoliberal agenda with economic growth as synonym of development (Ibid.). Some examples of this dynamics are recent scandals related with corruption or lack of transparency and accountability of some IGOs such as the "program oil for food"[2] in Iraq or the "Cholera epidemic spread"[3] in Haiti.

On the other hand, after the High-Level Forum on Aid Effectiveness in Busan in 2011 most IGOs shared a commitment to increase their effectiveness. This Forum committed to implement a common open standard for electronic publication of timely, comprehensive and forward-looking information on resources provided through development cooperation ("Fourth HLF", 2011). It was envisioned that the combination of the new digital technologies with the growing willingness of the IGOs to increase transparency would reduce this dichotomy of IGOs increasing inequality and of trying to be effective. Thus, it meant to open the door of a 100% transparency era.

Another important transformation through digital technologies is the change from the top-down control of the communication process of the "Rulers over the Ruled" into a "two-way exchange". Under those circumstances, some agents such as the civil society or journalists can speed their own communication processes and can track and monitor the institutional data and demand more accountability and participation (Van Dijck, J. & T. Poell, 2013). Thus, the assumption that these new digital technologies represent a revolution to increase transparency and embody a revolution in the communication process into a "two-way exchange" flow.

Further, critical voices mean that an improvement in the data process supported

[2] The UN´s oil-for-food sandal. Rolling up the culprits (13 March 2008). The Economist. Retrieved from http://www.economist.com/node/1085361, accessed 8 March 2017

[3] Astor, M. (1 December 2016) United Nations Apologizes for Haiti Cholera Spread, Not for Causing It. Retrieved from https://www.nbcnews.com, accessed 1 December 2016.

by digital tools will not be able offer transparency because of the socio-political influence and the top-down power dynamics in cooperation and development field.

1.3. Theoretical Framework.

The potential of new technologies to increase transparency is evident for every agent in international development. Nevertheless, it is extremely difficult to contextualise the broad concept of transparency. Etzioni defines transparency as the principle of enabling the public to gain information about the operations and structures of a given entity (Etzioni, 2010). Michener adds that “Transparency embodies two necessary and jointly sufficient conditions that adhere to the original literal and figurative meanings of the word visibility and inferability: visibility, as in “light rendering an object entirely visible”; and inferability, information lending itself to verifiable inference or conclusions”. Besides transparency changed from a concept in which visibility was the most noticeable concern, to the emergent importance of inferability over time (Michener, 2013, p.233).

While in the past it was enough by just publishing more information transparency in IGOs, these days it is more about offering access and verifying the validity of the information. Armstrong also defends this assumption that, “transparency refers to unfettered access by the public to timely and reliable information on decisions and performance in the public sector” (Armstrong, 2005, p.4). Grigorescu says that, “a truly transparent IO is one that allows the public to know how to access information about its work, how it spends its resources, who works in it, and how its staff is selected” (Grigorescu, 2007, p.643). Thus, to have transparency, an institution should promote access of the public to reliable information with visibility and inferability, enabling them to gain information and showing how the institution works and spends its resources. However, transparency separated from other related concept such as accountability and participation has its specific gaps.

The present research wants to extend this assessment with some ideas of Fox who remarks that “Transparency should empower efforts to change the behaviour of powerful institutions by holding civil society accountable in the glare of the public eye” (Fox, 2007, p.665). Accordingly, transparency and accountability are concepts which are closely related. In addition, the concept of accountability is extremely hard to define even from a semantic point of view. In order to clarify this new “re-branded” concept a historical analysis is needed.

From the late twentieth century, the Anglo-Saxon world has endorsed a transformation of the established book-keeping function in public administration into a much wider form of public accountability. This broad move from financial book-keeping to public accountability participated parallel to the presentation of New Public Management by the Thatcher Government in the UK and to the Reinventing Government reorganizations initiated by the Clinton-Gore Supervision in the USA. The release of "accountability" from its accounting background is therefore initially an Anglo-American singularity if only because other languages, such as French, Portuguese, Spanish, German, Dutch or Japanese, have no exact equal and do not differentiate semantically between "responsibility" and "accountability".

What began as a mechanism to increase the effectiveness and competence of public governance, has progressively become a goal in itself. Accountability has become a symbol for good governance (Bovens, 2007).

In the current political and scholarly discourse "accountability" regularly works as an intangible umbrella that covers several other diverse notions, such as transparency, equity, democracy, efficiency, responsiveness, responsibility and integrity. Intensely, in American scholarly and political discourse, "accountability" frequently is used interchangeably with "good governance" or virtuous conduct. However, Bovens explains that, “Some dimensions, such as transparency, are instrumental for accountability, but not constitutive of accountability; there is no general consensus about the standards for accountable behaviour because they differ from role to role, time to time, place to place and from speaker to speaker” (Ibid., p.449).

Following Fox’s statements, accountability includes also the capacity to sanction or compensate. It could be also expressed as the capacity to demand explanations. Similarly, he affirms that, “The most meaningful kind of answerability is produced by those public and civil-society agencies that have the power not only to reveal existing data, but also to investigate and produce information about actual institutional behaviour”. This capacity to produce answers permits the construction of the right to accountability and also promotes the participation of all implied agents (Fox 2007, p.671). Additionally, Buchanan comments that if information concerning how the institution runs is to serve the termination of narrow accountability, it must be accessible at realistic cost; correctly integrated and interpreted; and focused on the accountability-holders. Furthermore the accountability-holders must be sufficiently motivated to use it accurately in estimating the performance of the relevant institutional agents (Buchanan & Keohane, 2006).

Bovens explains that accountability is a connection between an actor and a forum, in which “the actor has an obligation to explain and to justify his or her conduct, the forum can pose questions and pass judgments, and the actor may face consequences”. Figure 1 simplifies this definition (Bovens, 2007, p.447).

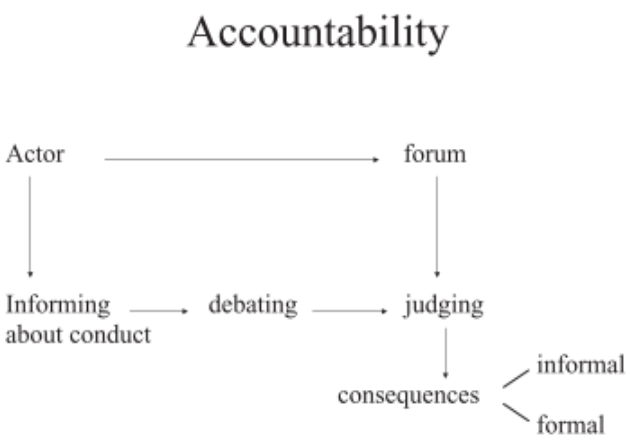


Figure1 Bovens Types of Accountability

Nevertheless, this last obligation of “facing the consequences” by the actor is not totally fulfilled in the case of IGOs. The immunity of some institutions represents a potential gap in their accountability (Reinisch, 2014). The topic of immunity is complex and would need a study to understand the logic and dynamics behind it. International organizations are generally recognised as requiring privileges and immunities, in particular immunity from jurisdiction of domestic courts. Conversely, in the recent years, both legal doctrine and practice have devoted particular attention to the potential accountability gap created by sweeping jurisdictional immunities of international organizations. This has even led to calls for filling the gap by denying immunity (Tierney, et al., 2011). Even though the definition of accountability of Bovens cannot be 100% applied to this study, introduced an idea of interaction with the forum which is similar to the concept of Transparency Action Cycle which will be explained in the next section. It highlights the requirements of a successful transparency initiative where it focuses on the role of technology and Transparency Action Cycle.

A transparency initiative is designed to solve a problem or improve a particular issue with this logic one could say that the goal of the initiative is to increase transparency. Similarly, technology should support this project to be more efficient by solving this initial goal. As such, the degree to which those objectives or goals will be achieved can serve to estimate the performance of the technology itself. As described within the IATI principles, in the case of a transparency Initiative, the purpose of a technological tool should be to make information about aid spending easier to access, to use and to understand. Besides, the technology should help the Initiative to hold a person, organisation or administration accountable (Groves & Hinton, 2013).

Besides, the use of technology only produces dramatic increases in accountability and transparency when it fulfils latent desires or needs which were present in the target community and were not possible to accomplish before the development of this technology (Gigler & Bailur, 2014). Similarly, according to Kosack, whether and how new information is used to further public objectives depends upon whether and how it is incorporated into complex chains of comprehension, action, and response. Hence, data disclosure succeeds when it focuses on the specific needs of individuals and groups who are meant to use the information to make decisions (Kosack & Fung, 2004).

Therefore, the likelihood of success of a digital transparency project increases when it is designed based on the user’s needs, motivating them to use the information and take actions (Bertot et al., 2010). Accordingly, the technology should not promote just the publication of information to the public with more accessibility and usability. According to Fung, the role of technology should be also to promote the interaction between the information disclosers and the target users. Following the same logic and making a reference to the previous section, these connections will also increase the accountability of the implied stakeholders. The information disclosers should be more responsive and efficient to improve the information based on the user’s feedback with the support of technology. Likewise, the data users should be engaged and motivated to use this information and provide a feedback to the information disclosures.

Those interactions between the implied agents, the process of information and the links already mentioned between transparency and accountability can be represented within the “Transparency Action Cycle” of Fung (see Figure 2) (Fung et al., 2004).

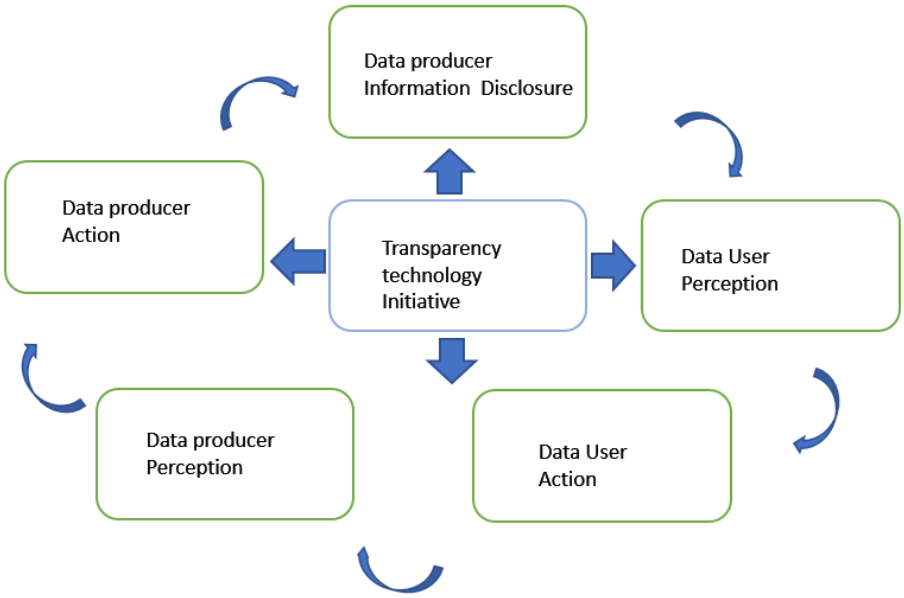


Figure 2 Transparency Action Cycle adapted from Fung

Within this cycle, the best performance of a transparency initiative occurs when disclosers provide information to the target public, and when that information is useful and accessible for action by the target users (Rojas, 2012). The cycle evolves when users integrate the disclosed information into their behaviour and successively, the disclosers adjust their own actions with accountability. Hence, one can affirm that transparency policies are not a lineal process but an interaction of two-ways direction. Consequently, the initiative is more effective when information get integrated in this action cycle, becoming part of the decision-making routines of users and disclosers (Ibid.).

The action cycle for the present study has been contextualized in the following manner:

1. Information discloser where the IGO tries to fulfil latent needs of the target public and publish the information using digital technology.
2. Data users, also the target users of the initiative such a donors and Member States have access to this information, find it useful and analyse it.
3. Data users are motivated to use the information and accomplish with actions that were not possible without the new technology and this aids policies and provides feedback to the IGO.
4. Back to the information discloser where the IGO takes responsive actions and offer accountability

5. Information discloser outcomes are when IGO improve published data and technology and look for better connections with users.

Furthermore, in the same context, the role of technology should help to:

a) Fulfil latent needs or wishes which were present in the target community and were not possible to accomplish before.

b) Offer useful information in an understandable format with a high level of quality, accessibility and usability.

c) Promote accountability and interaction between “Information Disclosers” and “Data Users”.

1.4. Research Objectives

The present study highlights the enormous potential of new digital technologies to improve transparency initiatives. These technological innovations which have been integrated recently permit to track any data with unprecedented fidelity but there is less information about their impact. Likewise, the role of technology is limited or influenced by the socio-political context. Nowadays the international development scenario shows many dichotomies in the politic and economic level, conflict of interest, immunity, censorship etc. This environment and interactions can influence the potential or performance of technology. Conversely the digital technologies represent a revolution to the classical top-down approach in the institutional communication and several IGOs seems to be willing to participate in this revolution. For this reason, the present research aims to explore how new digital technologies contribute to improve transparency and accountability initiatives in the field of international development.

In order to narrow the research goal, the study will focus on the case study of UNIDO Open Data Platform launched in 2015.

The specific objectives are as follows:

1. Collate the needs of the potential users regarding transparency.
2. Identify if the Open Data Platform of UNIDO make the disclosed information accessible, easy to use and convenient.
3. Understand how digital technologies improve the interactions between the Information Disclosers and the Data Users.

1.5. Research Design

This study will use a qualitative methodological approach. The theoretical framework will serve as a guideline to track the different implied processes within a transparency initiative supported by digital technologies. In this case, the research has adapted the Action Cycle of Fung, to a particular case study. By focusing on that case, this research can reduce the broad universe of transparency supported by technology. This approach allows the research to descend to a more granular level and track more extensively important interactions and processes. The aim is to consolidate an inductive approach going from specific observations of a particular context to general conclusions regarding transparency supported by technology (Gioia, Corley & Hamilton, 2013).

Consequently, this case will be based on the Open Data Platform of UNIDO and by extension will be related to the different policies and agents of international development field.

The research will be structured in three phases and will be supported by different qualitative methods. Firstly, the researcher will interview the information disclosers or implied agents of UNIDO Staff in the development of the digital initiative through semi-structured interviews (Whiting, 2008). It will help the study to get a better understanding about the initiative and analyse the perspective of the information disclosures and their interaction with the users. Secondly, a User-Experience approach will be employed to evaluate the perceptions of the data users of the Open Data Platform regarding visibility, usability and accessibility to the information as well as the new interaction potential (Pallot, et al. 2010). Thirdly, the information collected in the previous phases and some main indicators extracted from the grey literature will be used to elaborate the final findings or if needed to elaborate further methods to complete the missing information of the research goals.

This methodology will be explained in more detail in chapter three but in any case, the evaluation of the qualitative inputs from both collectives: UNIDO Staff and the target users of the Open Data Platform should help this research to clarify or at least to understand how new digital technologies contribute to improve transparency and accountability in the field of international development.

1.6. Limitations of the Study

Transparency is a complicated concept, not only to understand but also to track. Many of the transparency indexes reviewed, reflect the appropriateness of the technical support but cannot track the socio-political implications. The approach of a donor could be totally different from the understanding of the employee of an NGO or an employee from UNIDO. To reach a sample big and diverse enough to get results with statistical validity would represent a huge amount of resources which are not available for this research. Some crucial inputs are related with the concept of accountability and following the logic of Bovens the possibility of "facing consequences by some actors". The present research is not able to offer a deep feedback about immunity of IGOs because it represents a very specific topic that would need a single research itself.

Those IGOs are not always available or have busy agendas so it is difficult to fix appointments with them to support a university research. Besides, in some cases, the interviewee get scared if the conversation is recorded and consequently try to be as "politically correct" as possible and normally deny to answer some questions even if there are not controversial at all. Another important handicap is that the lack of resources will hinder the feedback of stakeholders from developing or recipient countries. Thus, the research can thus be rightly perceived as highly institutional and western-oriented. The last main issue is the scarce historical data of digital Open Data Platforms in aid and cooperation field. These initiatives and also the so-called "data revolution" have just started, therefore it will be difficult to track their impact in the short- term. Additionally, those platforms are highly dynamic and still developing new features. It means that some requirements that the technology cannot accomplish now will be

working in the future.

It is important to keep in mind that the researcher is not professionally involved in any Intergovernmental Institution and neither working for an international development project. Thus, it is positive to be neutral within the research but represents a challenge for an "outsider" to understand such a complex universe. Besides, the time available for the research is limited as the researcher is professionally with a full time-basis schedule in other tasks which are not related with this research.

1.7. Definition of terms

Transparency: In politics, transparency is used as a means of holding public officials accountable and fighting corruption. When a government's meetings are open to the press and the public, its budgets may be reviewed by anyone, and its laws and decisions are open to discussion, it is seen as transparent, and there is less opportunity for the authorities to abuse the system for their own interests" (Schnackenberg & Tomlinson, 2016).

Accountability: It is the acknowledgment and assumption of responsibility for actions, products, decisions, and policies including the administration, governance, and implementation within the scope of the role or employment position and encompassing the obligation to report, explain and be answerable for resulting consequences (Cooper, 2012).

Intergovernmental Organization: The term intergovernmental organization (IGO) refers to an entity created by treaty, involving two or more nations, to work in good faith, on issues of common interest. In the absence of a treaty, an IGO does not exist in the legal sense. For example, the G8 is a group of eight nations that have annual economic and political summits. IGOs that are formed by treaties are more advantageous than a mere grouping of nations because they are subject to international law and have the ability to enter into enforceable agreements among themselves or with states ("Harvard Law School", n.d., definition).

Development Aid: Development Aid is also known as development assistance, technical assistance, international aid, overseas aid, official development assistance (ODA), or foreign aid) is financial aid given by governments and other agencies to support the economic, environmental, social, and political development of developing countries. It is distinguished from humanitarian aid by focusing on alleviating poverty in the long term, rather than a short term response[6].

Information and Communication Technology: Information and Communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audio-visual processing and transmission systems, and network-based control and monitoring functions. Although ICT is often considered an extended synonym for information technology (IT), its scope is broader. ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types

[6] Financial times lexicon: Definition of international Aid, retrieved from Financial Times lexicon: http://lexicon.ft.com/term?term=international-aid/, accessed 25 January 2008.

and formats (Melody, Mansell & Richards, 1986).

The International Aid Transparency Initiative (IATI): IATI is a voluntary, multi-stakeholder initiative that seeks to improve the transparency of aid, development, and humanitarian resources in order to increase their effectiveness in tackling poverty. IATI brings together donor and recipient countries, civil society organizations, and other experts in aid information who are committed to working together to increase the transparency and openness of aid ("IATI", n.d. About).

Sustainable Development Goals (SDGs): The Sustainable Development Goals (SDGs), officially known as "Transforming our World: the 2030 Agenda for Sustainable Development" is a set of seventeen aspirational "Global Goals" with 169 targets between them. Spearheaded by the United Nations, through a deliberative process involving its 194 Member States, as well as global civil society, the goals are contained in paragraph 54 United Nations Resolution A/RES/70/1 of 25 September 2015. The Resolution is a broader intergovernmental agreement that, while acting as the Post 2015 Development Agenda (successor to the Millennium Development Goals), builds on the Principles agreed upon under Resolution A/RES/66/288, popularly known as The Future We Want ("Sustainable Development", 2015).

Search Engine Optimization (**SEO):** Search Engine Optimization is a methodology of strategies, techniques and tactics used to increase the amount of visitors to a website by obtaining a high-ranking placement in the search results page of a search engine (SERP) -including Google, Bing, Yahoo and other search engines (Beel, Gipp & Wildel, 2009).

Open Data: Open Data "is the idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. The goals of the open data movement are similar to those of other "open" movements such as open source, open hardware, open content and open access. The philosophy behind open data has been long established (for example in the Mertonian tradition of science), but the term "open data" itself is recent, gaining popularity with the rise of the Internet and World Wide Web" (Kitchin, 2014).

Blockchain technology: A blockchain is a digitized, decentralized, public ledger of all cryptocurrency transactions. Constantly growing as completed blocks (the most recent transactions) are recorded and added to it in chronological order, it allows market participants to keep track of digital currency transactions without central recordkeeping. Each node (a computer connected to the network) gets a copy of the blockchain, which is downloaded automatically. Currently, the technology is primarily used to verify transactions, within digital currencies though it is possible to digitize, code and insert practically any document into the blockchain. Doing so creates an indelible record that cannot be changed; furthermore, the record's authenticity can be verified by the entire community using the blockchain instead of a single centralized authority[9].

[9] Blockchains: The great chain of being sure about things" (31 October 2015), retrieved from https://www.economist.com/briefing/2015/10/31/the-great-chain-of-being-sure-about-things, accessed 3 July 2016

Key Performance Indicator (KPI): A KPI is a type of performance measurement. KPIs evaluate the success of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages[10].

Results-Based Approach: A Results-Based Approach is the ultimate goal for development co-operation providers in achieving development outcomes and impact: real changes in the lives of beneficiaries in developing countries. In this approach, providers and their partners articulate the specific results they will achieve or contribute to in support of these development outcomes ("OECD", n.d., Results-based approaches).

Post-development theory: Post development theory (also post-development, or anti-development) holds that the whole concept and practice of development is a reflection of Western-Northern hegemony over the rest of the world. Post development thought arose in the 1980s out of criticisms voiced against development projects and development theory, which justified them (Latouche, 1993).

Big data: Big data is a term for data sets that are so large or complex that traditional data processing application software are inadequate to deal with them. Challenges include capture, storage, analysis, data curation, search, sharing, transfer, visualization, querying, updating and information privacy. The term "big data" often refers simply to the use of predictive analytics, user behaviour analytics, or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set (Hilbert & López, 2011).

Crowdsourcing: It is a sourcing model in which individuals or organizations obtain goods and services. These services include ideas and finances, from a large, relatively open and often rapidly-evolving group of internet users; it divides work between participants to achieve a cumulative result. The word crowdsourcing itself is a portmanteau of crowd and outsourcing, and was coined in 2005 (Schenk & Guittard, 2009).

Technology web 2.0: A Web 2.0 website may allow Users to interact and collaborate with each other in a social media dialogue as creators of user-generated content in a virtual community, in contrast to the first generation of Web 1.0 era websites where people were limited to the passive viewing of content (O'reilly, 2005).

User Experience: It refers to a person's emotions and attitudes about using a particular product, system or service. It includes the practical, experiential, affective, meaningful and valuable aspects of human–computer interaction and product ownership. Additionally, it includes a person's perceptions of system aspects such as utility, ease of use and efficiency. User-Experience may be considered subjective in nature to the degree that it is about individual perception and thought with respect to the system[13].

---

[10] Establishing the Metrics that Guide Success (June 2015). Retrieved from https://www.ca.com/content/dam/ca/us/files/white-paper/key-performance-indicators.pdf, accessed 23 April 2016.

[13] All About UX. Information for user experience professionals. User Experience definitions, retrieved from http://www.allaboutux.org/ux-definitions, accessed 13 January 2012.

Personas: Personas are archetypes built to identify our real users profile, needs, wants and expectations in order to design best possible experience for them (Adlin & Pruitt, 2010).

Geographical Information System (GIS): A GIS is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data (Clarke, 1986).

Data Revolution: Most people are in broad agreement that the 'data revolution' refers to the transformative actions needed to respond to the demands of a complex development agenda, improvements in how data is produced and used; closing data gaps to prevent discrimination; building capacity and data literacy in "small data" and big data analytics; modernizing systems of data collection; liberating data to promote transparency and accountability; and developing new targets and indicators ("Data Revolution Group", 2015).

1.8. Relevant literature

The reviewed literature clarified many abstract concepts as well as technological trends and socio-political relevant issues for the scope of the research. These inputs facilitated the elaboration of the research question and the better understanding about new technologies, interaction dynamics in development field and transparency initiatives. The involved topics are very recent and closely related with internet, so most of the search strategy was focused in literature available online. The main search queries were crucial concepts such as transparency, open data, accountability, new information and communication technology, big data, Freedom of Information Law, efficiency in Development Aid etc. Several reports available in institutional websites and grey literature regarding transparency initiatives supported by ICT''s were also reviewed.

Firstly, several authors were consulted to get a better definition of transparency and accountability as well as the requirements of a successful Transparency Initiative and the explanation about the "Transparency Action Cycle". Then a classification of technology and transparency by consulting grey literature and online platforms and finally an approach to the socio-political context in development and cooperation field comparing post-development authors and institutional grey literature. The goal was to build a conceptual framework that enable the researcher to define the key factors that lead to the success in transparency initiatives but also to keep in mind the potential challenges and handicaps. Without this background would not be possible to understand the empirical inputs and neither answers the research question.

1.9. Chapterisation

The study will comprise of five chapters. Chapter one is the introductory chapter which sets out the background of the study including the research questions and the objectives of the study. It further states the research problem and the context of the study. Additionally, it briefs the methodology and relevant literature of the study and provides the chapter outline. It also clarifies terms used in the study and further specifies the scope and limitations of the study. Chapter two discuss the literature available concerning Institutional transparency initiatives supported by ICTs. This chapter will aim to identify the main features which will support the

field research with the most accurate approach. Chapter three provides the methodology employed in the study which is mainly qualitative except for the review of some statistical data. It describes the data collection procedure, handling of the data and methods of analysis. It also discusses the methodological interpretation and framework of the study. Chapter four shows the obtained findings during the field research. Chapter five presents the final discussions and conclusions.

Chapter Two: Review of Literature

In the present research, it is important to have an overview about the literature that can help to define the key factors of success of a transparency initiative in international development field and to get a better understanding of the complex socio-political context behind it. This chapter elaborates on data revolution, the concept of transparency, the relevance of socio-political factors in transparency and the limitations of technology in transparency.

2.1. Data revolution, Open Data and Mobile Phones

To acknowledge the data as "Open Data" it should be to be truly open available online so as to accommodate the widest practical range of users and uses, open-licensed so that anyone has permission to use and reuse the data, machine-readable so that large datasets can be analysed efficiently, available in bulk to be downloaded as one dataset and easily analysed by a machine and finally free of charge so that anyone can access it no matter their budget[15]. The concept of "data revolution" involves the development of "Open Data" in combination with different technologies such as "big data" and "Geographical Information System (GIS). This combination will be decisive to produce an inclusive and transparent process in development ("Open Data", n.d. History, para.1).

In this context, one can make a reference to the ex-UN Secretary-General Ban Ki-moon in 2013 during the High-Level Panel. He spoke regarding this "data revolution" where he said that, "Better data and statistics will help governments to track progress and make sure their decisions are evidence-based; they can also strengthen accountability. This is not just about governments. International agencies, Civil Society Organizations and the private sector should be involved. A true data revolution would draw on existing and new sources of data to fully integrate statistics into decision making, promote open access, use of data and ensure increased support for statistical systems ("HLF Report", 2013).

Similar assumptions can be found in the Open Data Barometer website: "In a well-functioning democratic society, citizens need to be informed and have access to information about government policies and progress. Open data reduces the time and money citizens need to invest to understand what government is doing and to hold it to account. Notably, because open data is made available in bulk and in formats that simple computer programs can analyse. Compare and combine data from different sources becomes faster and easier, even across national boundaries. Anderson also remarks that, "We can track and measure every single issue with unprecedented fidelity. With enough data, the numbers speak for themselves" (Anderson, 2008, para. 7).

It is affirmative that the data revolution is the consequence of a technological revolution. Today, the last developments allow not only to publish information but also to process massive amounts of data. Every single topic can be tracked and measured which great reliability and it offers a higher level of transparency without precedents.

[15] Sookyung Jung, C. (26 June 2018). What is open data& why is it so important? Retrieved from https://www.navigantresearch.com/news-and-views/what-is-open-data-and-why-is-it-important-part-1 accessed 29 June 2018,

The Open Data Platforms are online based and the smartphones are the most used devises in developing countries. Mobile tools may fill an information gap, either by moving more quickly than governments are able to move or by providing a grassroots perspective that governments are unable or unwilling to collect. One can find examples such as “The Budget Tracking Tool” that allows citizens to submit a text message containing their geographic district and receive a reply containing the amount of money earmarked for various development projects in that district. It can integrate “mapping” technology and citizens can also visit the project’s website to see a map and a district-by-district breakdown of allocated funds (Avila et al., 2010).

Mobile phones are also prominent in data collection efforts. One of the most common examples is Ushahidi[18], a platform based on crowdsourcing technology that, depending on its configuration in a specific instance, can receive citizen reports via text messaging. To sum up, every digital Open Data initiative should take in account the compatibility with mobile devices in order to improve data access and process in the field of international development. Also, as the next chapter explains, smartphones and other digital technologies have represented a revolution also in the communication process agility. Subsequently, transparency is not uni-directional slow down and controlled by the information disclosures anymore.

2.2. Transparency as a “two ways” exchange dynamic

The institutional communication has experienced a big change due to the new digital technologies. Traditionally, new ICTs have favoured those already in power, enhancing “the power of the “rulers over the ruled”. In the past, if an institution did not offer enough information or produced “propaganda”, the public had many difficulties to get accurate information and even more to give a negative feedback or ask for accountability. However, nowadays what is published by an institution can be cross-checked around the world in a few seconds.

The applications of the internet have the potential to enhance existing approaches to transparency. In the institutional context, it fosters new cultures of openness both by giving government's new tools to promote transparency and reduce corruption and by empowering members of the Civil Society to collectively take part in monitoring the activities of their governments. Similarly, technology web 2.0 such as the social media, complement traditional media efforts, such as investigative journalism. It makes information about politicians or governmental activities generally available.

These innovations mentioned above shows the potential to recover accountability and promote interaction and participation of the public in open forums. There are many examples such as the “Fair-play Alliance” which receives information from both governments and journalists. In the former case, the NGO receives information about politician’s finances, procurement and public behaviour. Additionally, the Fair-Play Alliance has an “Open Politics” database where politicians are encouraged to fill out a more comprehensive personal disclosure form than the one required by the federal election commission (Fung, Gilman &

[18] Ushahidi: “Helping people raise their voice and those who serve them to listen and respond better”, retrieved from https://www.ushahidi.com/about, accessed 23 January 2016

Shkabatur, 2010).

Likewise, different social movements such as the “Arab Spring”, which was a revolutionary wave of demonstrations and protests in 2010 in Tunisia with the Tunisian Revolution, and spread throughout the countries of the Arab League and its surroundings or “Indignados”, the anti-austerity movement in Spain in 2011, were also strongly supported by social media networks and other internet means. It has shown how corruption and secrecy is not an easy going option for the public institutions anymore (Grigorescu, 2007).

In short, the communication is today more likely a dynamic of “two-way” exchange of information. It is suggested that such dynamic of data spreading, conducted by means of ICT, drives organizations to show more openness and accountability, and more transparent processes, which help both the institutions and the public (Vaccaro & Madsen, 2009). Therefore, a digital Open Data initiative should promote the feedback of the users and communication online between the implied stakeholders. It is clear the potential of new technologies to increase transparency and a “two ways” exchange dynamic but the technology is designed or developed by people and applied with a different approach depending on the goals.

2.3. Technological interventions and latent wishes

The present also analysed several Transparency Initiatives supported by ICTs. The main conclusions were that there are cases in which the technological intervention almost by itself produces dramatic increases in transparency and participation because it unleashes the latent wishes of individuals by allowing them to take significant actions that previously were impossible without the technology (Fung, Gilman & Shkabatur, 2010).

There are some examples such as Wikipedia, Google or wiki leaks in which the technological effort – all by itself – produces large impacts and can change the way of sharing data and make the “crowd” participant and accountable. Nonetheless, most of the authors express that in transparency initiatives, the technology development process is only around 7% of the work, while the rest is outreached by people. (Byarugaba et al. 2014). In addition, technology is not good or bad neither neutral for transparency. Whether or not an intervention is successful in its end might depend on elements of the socio-political context in which the intervention occurs (Fung et al., 2010).

Lanerolle went further and affirmed that technology itself is less important than the social or political context in which it is used. When applied in relation to Technology for Transparency and Accountability Initiatives, this can draw attention away from the tools that initiatives use, and towards the broader contexts and processes in which they are used (Pachinger et al., 2016). Peixoto is more specific and said: “while ICT platforms have been relevant in increasing policymakers and senior manager’s capacity to respond, most of them have yet to influence their willingness to do so” (Peixoto & Fox, 2016, p.2).

Even though there is a potential of technological initiatives to support transparency such as an Open Data, it is crucial to have an overview of the socio-political context in development field.

2.4. Socio-political context

Technology is very flexible and can be oriented in different ways depending on the interests and goals. As an example, a similar technology can be used by the European Union Open Data Portal[20] and by a journalist association with a platform such as "the migrant files"[21] with a totally different impact in the Civil Society. The first portal informs about the EU policy among others about migration while the second Platform shows the human and financial costs of 15 years of "Fortress Europe". In the same manner, as the present research is focused on the context of international cooperation, it is also important to understand why transparency has been such a big deal in this field these last years. During the last 20 years many prominent IGOs, such as the World Bank, the European Union, the International Monetary Fund and regional development banks, have adopted public-information policies. Similarly, private companies and non-profit organization have developed their communication looking for more transparency (Finel & Lord, 1999).

Concurrently, in the mid-1980s rubber tappers and indigenous peoples mobilised against World Bank-sponsored development projects in the Brazilian Amazon. Similarly, in 1998, 60.000 protesters encircled the Group of Seven (G7) Summit at Birmingham to demand the cancellation of poor country debts (Scholte, 2001). From this perspective, the literature shows that there is a discussion between the implied stakeholders regarding effectiveness or lack of effectiveness in international Development. Within this discussion, both parts agree about the need of increasing transparency and accountability with the support of new technologies. The present research tries to understand both perspectives and summarize the most important actions of IGOs to increase effectiveness and transparency. The institutional grey literature and several reports, explain that the present technological and data revolution is supported by the willingness of the main "agents" involved in international development. (Anderson, 2008).

Nevertheless, before getting a closer approach into the transparency commitments of the IGOs, it is also crucial to review another key-concept such Freedom of Information (FOI). Its evolution from a need to a law is understood by many authors as a result of Transparency demands.

2.4.1. Freedom of Information (FOI), from the need to the law

Concerning the legal framework, Freedom of Information Laws (FOIL) has been around for over 200 years and are still evolving. Over half of the FOI laws have been adopted in just during the last ten years. Accordingly, one can affirm that the increase of FOI laws in the last decade represent the outcome of the demands for improvement in transparency by civil society organizations, the media and international lenders (Banisar, 2006).

FOI become one of the main issues of United Nations; it was approved by the General Assembly in October 2003 and adopted in December 2005, afterwards it was ratified by 30 countries. Article 10 of the Convention on "Public reporting"

[20] European data portal: Europe´s public data, retrieved from http://data.europa.eu/euodp/en/data, Accessed 28 January 2016

[21] The Migrant Files: The human and financial costs of 15 years of fortress Europa, retrieved from http://www.themigrantsfiles.com/, accessed January 28, 2016.

encourages countries to adopt measures to improve public access to information as means to fight corruption (Ibid.).

Article 19 of both the Universal Declaration on Human Rights and the International Covenant on Civil and Political Rights provide that every person shall have the right to free expression and to seek and impart information. There is growing acknowledgement that the right to obtain information comprises a right of freedom of information. It means that it is also important to remember the fact that transparency in the form of freedom of information is not a symbol of good governance of the institutions but a right to know of the civil society supported by official laws. In this framework, the commitments for aid effectiveness are of course linked to the commitments for transparency.

2.4.2. Commitments for Aid Effectiveness

Over the past period, donors have repeatedly committed to increase aid efficiency and transparency in development cooperation. In 2015 the “revision” of the past Millennium Development Goals (MDGs) took place and the new Sustainable Development Goals (SDGs) were set. It represented a proactive role of the IGOs which assumed the urgency not only to improve but also to follow-up the achievements of the targeted goals in development. The precedent was the High-Level Forum in Paris in 2005, where donors committed to “take far-reaching and monitorable actions and to reform the way we manage and deliver aid”, including by improving predictability, ownership and integration and reducing duplication and fragmentation (“OECD Legal”, 2003).

In the same way, in 2008 at the third High-Level Forum on Aid Effectiveness in Accra the IATI was launched. The initiative was proposed to support donors to confront their political obligations regarding transparency. As already commented, for the first time, the technological development permits to process huge amounts of data in a short period of time. The documents in “machine readable format” Machine-readable data which are data (or metadata) in a format which can be understood by a computer, can be processed, compared and re-used at a global level. Thus, the final development of IATI took place at the High-Level Forum on Aid Effectiveness in Busan in 2011 where development actors committed to “implement a common open standard for electronic publication of timely, comprehensive and forward-looking information on resources provided through development cooperation” (Cabral, Russo & Weinstock 2014).

Similarly, endorsers of the Busan outcome document committed to publishing the common standard by the end of 2015. Another important initiative which was also launched at the 2008 Accra High-Level Forum on Aid Effectiveness was “Publish What You fund”. This Association supports further release of aid information in line with the IATI principles and promotes the essential meaning of aid transparency within international debates on aid effectiveness and freedom of information. One of their main achievements was the conception of the “Aid Transparency Index”. It is one of the main global measures of the state of aid transparency in the world’s leading aid organizations. In the same way, within the transparency index one can find again the proactive behaviour of IGOs in their willingness to improve their transparency. United Nations Development Program (UNDP) for instance, is in the first position of this Index with 93% in 2017 (100% is the max. score).

This willingness is also visible within the institutional structure of these initiatives. Two of the 11 coordinators of the IATI Secretariat were working for UNDP in 2017 and another three coordinators of the IATI secretariat ("IATI Secretariat", 2013). are working for United Nations Office for Project Services (UNOPS).

2.4.3. Critical voices, ineffective development policies

Some authors are very critical and remark that despite some post-war gains in social and economic development, since the 1980s there has been a widespread recognition of the failure of international development to alleviate poverty and reduce inequalities within and between regions (Kothari, 2005). Many observers, including donor countries of the Organization for Economic Cooperation and Development, recognize that development policies have been largely ineffective in meeting its purported development objectives (Tandon, 2009).

Some authors still affirm that international aid instead of being effective to fight poverty, has represented a "western-designed" machinery encompassing departments and bureaucracies to hide the transition from colonial rule to the neoliberal agenda (Kothari, 2005). In addition, as cited in the official website of Transparency International: "it is important to keep in mind that in the early 1990s, corruption was often a taboo topic. Many agencies were resigned to the fact that corruption would sap funding from many development projects around the world. There was no global convention aimed at curbing corruption, and no way to measure corruption at the global scale"[24]. Tandon is even more specific and expressed that many developing countries have gained their political independence, but in most cases, they are still trapped in an asymmetrical economic, power, and knowledge relationship with development (Tandon, 2009).

This power inequality affects at a global scale in which the IGOs take decisions from a Head Quarter in Europe or North America without having a real approach to the local realities. For instance, finance decisions made by the World Bank or pronouncements on resource provision by the Global Fund to Fight AIDS, Tuberculosis, and Malaria are difficulties of life and death for the society in Africa and Asia. Equally, the World Trade Organization (WTO) rules on agrarian aid and import duties which can disturb intensely the well-being of farmers everywhere in the world (Buchanan & Keohane, 2006).

It also means that IGOs decisions have historically affected the well-being and opportunities of tens of millions of people, most of whom are at best dimly aware of their existence and know little of their origins and functions (Scholte, 2001).

This historical asymmetry in development policy in the long term, is not a sustainable project anymore. The recipients of World Bank loans and any other implied stakeholder ask nowadays not only for effectiveness but also for the monitoring of the resources allocation for free access to this information.

Transparency is important because of the need/willingness of further improvement in the effectiveness of development cooperation which is important to the specialists and institutions and because many donors (parliaments, civil society, etc.) continue to call for the justification of aid expenditures and tracking

[24] Transparency international: What is Transparency international, retrieved from https://www.transparency.org/about, accessed 13 March 2017.

of the project results. This creates great pressure to give the most concrete evidence for the utility of Aid budgets which should be made public with full transparency (Klingebiel, 2012).

The complexes dynamics of the socio-political context regarding transparency initiatives in international development are very hard to track and understand. Nonetheless, there are some parameters regarding the success of a digital aid Open Data that can be easily tracked through secondary statistical data. Transparency is more about improving the access to the information than about publishing Information. Though, in order to access to the information of a digital Open Data, the potential Data-Users need an electronic device internet access with "Internet Freedom" and a certain level of literacy to understand and process the information.

2.5. Limitations at a global scale of Digital Transparency Initiatives

Digital transparency does not come without its limitations. Some of the factors of this limitation are rate of literacy among users, internet penetration in regions, freedom to use the internet and also smartphone penetration. Below are some of the limitations:

2.5.1. Literacy

Despite great progresses have been done in development field to increase the literacy rate worldwide, there are regions which still suffering from illiteracy (see figure 3). This collective would have neither access to information online nor an impact in the level of transparency supported by Open Data.

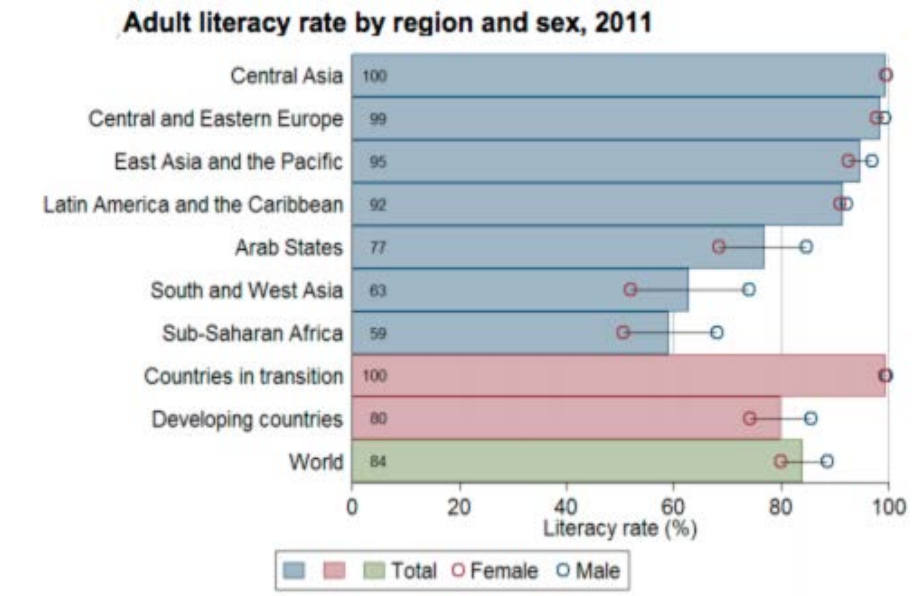


Figure3 Adult Literacy Rate by Region and Sex, 2011

In 2011, the worldwide adult literacy ratio for the population aged 15 years and older was 84%. Two regions, Central and Eastern Europe and Central Asia, were at or close to the level of universal literacy, with adult literacy rates of 99% and 100%, correspondingly. North America and Western Europe is also supposed to be near universal adult literacy. In East Asia and the Pacific (adult literacy rate of 95%) and Latin America and the Caribbean (92%). Adult literacy ratio was also below the global standard in South and West Asia (63%) and sub-Saharan Africa (59%), where more than one-third of adults could not read and write. (Figure 3). In numerous countries in West and Central Africa, youth literacy rates persist less than 50 per cent. Some countries, such as Malawi and Zambia, display a reduction in youth literacy rates. Consequently, there are some regions who can´t profit from the transparency of an Open Data Platform or any other information disclosure because the level of literacy represent an external handicap, which should be solved to be effective at a global scale.

2.5.2. Internet Penetration and Freedom on the net

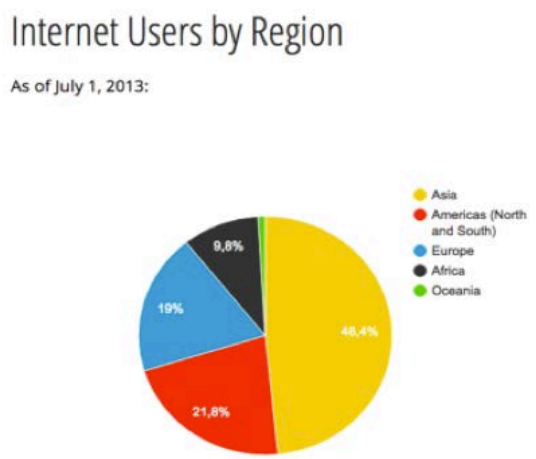
Approximately 40% of the world population has currently an internet connection. It represents a huge chance to get a massive audience in few minutes. However, this audience is predominantly placed in the top 20 countries. (See Figure 4)

Year	Internet Users**	Penetration (% of Pop)	World Population	Non-Users (Internetless)	1Y User Change	1Y User Change	World Pop. Change
2016	3,424,971	46.1	7,432,663	4,007,692	7.5	238,975,	1.13

Source: *Internet Live Stats* (www.InternetLiveStats.com)

Table 1 *Internet Users Worldwide*

In 2014, practically 75% (2.1 billion) of all internet users in the planet (2.8 billion) live in the principal top 20 countries. The remaining 25% (0.7 billion) is spread among the other 178 countries, each embodying less than 1% of entire users. China, the territory with the maximum number of users (642 million in 2014), is nearly 22% of total, and has more users than the next three countries combined (United States, India, and Japan).



Source: Internet Live Stats (elaboration of data by International Telecommunication Union (ITU)

Figure4 Internet Users by Regions

Simultaneously, China was the world's worst abuser of internet freedom, based on the 2015 Freedom on the Net evaluation[25]. It means that within the world population the digital Open Data Platforms can reach only 40% of them but 20% of those users lack of Internet freedom. In this context it is easy to understand the complexity of measuring an increase of transparency supported by digital Open Data Platforms when Internet freedom around the world declined in 2016 for the sixth consecutive year.

Two-thirds of all internet users, 67% live in countries where criticism of the authority, military, or ruling family are a matter of censorship.

Moreover, if the users want to participate through social media, they face unprecedented penalties, as authorities in 38 countries made arrests based on social media posts over the past year.

[25] Freedom on the net, accessed 13, January 2016, https://freedomhouse.org/report/freedom-net/2015/china

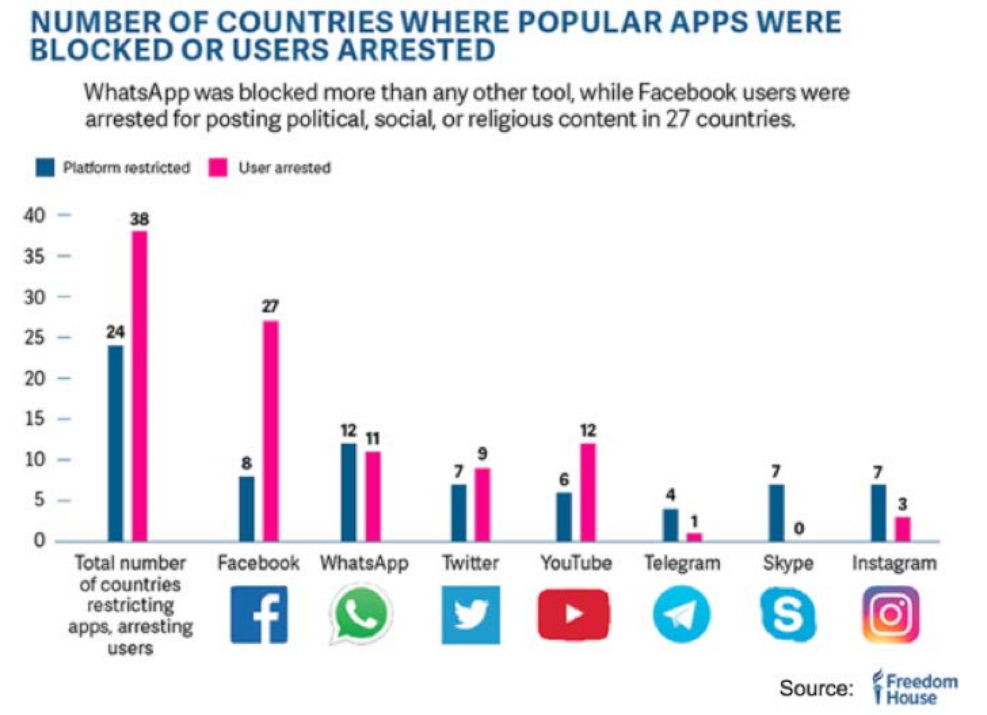


Figure 5 Number of Countries where Popular Apps were blocked or users arrested

Internationally, 27 % of all internet users live in countries where people have been arrested for distributing, sharing, or just "liking" content on Facebook. Administrations are progressively going after messaging apps such as WhatsApp and Telegram, which can spread information rapidly and securely (Figure 5). There is also an interesting correlation between Internet Freedom, Internet penetration and Gross Domestic Product per capita (GDP). There are few exceptions such as Singapore or United Arab Emirates which have a high GDP but lower internet freedom. Nonetheless, in general the countries with higher GDP have higher internet freedom and higher Internet penetration (Figure 6). It means that the economical level influence indirectly the level of transparency online.

The population with less resources is liable to suffer censorship or lack in their freedom of expression and even less possibilities to access to internet and protest against it

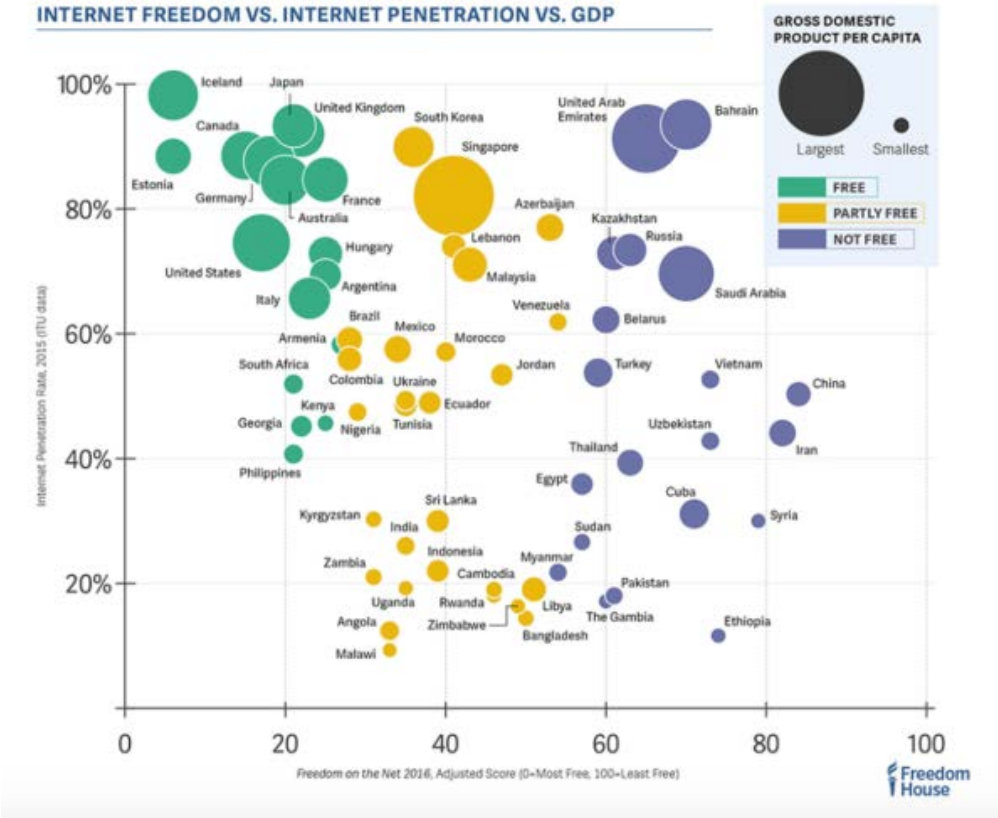


Figure6: Internet freedom Vs internet penetration Vs GDP

2.5.3. Smartphones penetration

Between 2015 and 2021, the previsions expect an increase of the connected devices up to 28 billion in 2021. Moreover, the smartphones subscriptions increased in 23% between 2014 and 2015[26]. Most mobile broadband devices are, and will continue to be, smartphones. Many consumers in emerging markets first experience the internet on a Smartphone, typically due to partial access to fixed broadband. It took more than five years to extend to the first billion Smartphone subscriptions, a landmark that was overtaken in 2012, and less than two years to reach the second billion. This progress will last, powered by immense growth in markets such as the Middle East and Africa, where Smartphone subscriptions will increase more than 200 percent from 2015 - 2021. (Figure 7)

[26] Mobility report Ericson, retrieved from Ericsson.com/res/docs/2016/ericsson-mobility-report-2016.pdf, accessed 3 July 2017.

Mobile subscription essentials	2014	2015	2021 forecast	CAGR 2015–2021	Unit
Worldwide mobile subscriptions	7,100	7,300	9,000	5%	million
> Smartphone subscriptions	2,600	3,200	6,300	10%	million
> Mobile PC, tablet and mobile router* subscriptions	250	250	300	5%	million
> Mobile broadband subscriptions	2,900	3,500	7,700	15%	million
> Mobile subscriptions, GSM/EDGE-only	4,000	3,600	1,200	-15%	million
> Mobile subscriptions, WCDMA/HSPA	1,900	2,100	3,100	5%	million
> Mobile subscriptions, LTE	500	1,100	4,300	25%	million
> Mobile subscriptions, 5G			150		million

Figure7 Mobile Subscription Worldwide

In short, from the structural and geographical point of view, the impact that a digital Open Data Platform could produce is to some extent blocked due to external factors. Furthermore, even with the increase of internet users and internet penetration, the countries with higher GDP are the potential data-users which could profit from this transparency initiative. Conversely, many developing countries cannot have access to this data either because of the lack of infrastructure or the censorship. In consequence, the digital open data seems to be a tool oriented more to the donors than on the recipient countries.

2.6. Conclusion:

The topics related with ICT in development were historically described and ruled by the institutions. One can find a lot of grey institutional publications talking about the need and potential of including new technologies. Nevertheless, the last developments in technology represent a huge change without precedents. The limits of the data that can be processed do not exist anymore and the civil society can access to these technologies and track and monitor any desired KPI. There is now enough data, so numbers can speak for themselves (Anderson, 2008). This huge technological change has exploded in the last years changing the communication dynamics between the institutions and the civil society. It is not entirely clear if the intention of increasing accountability and transparency was born from the willingness of the “rulers” or conversely it was derived by the demand of the “ruled” asking for more effectiveness in international development.

In any case, as it is such a new topic and the technology evolves very fast there are less studies about it with a holistic approach. Most of the literature in the political science field discusses power dynamics, the effectiveness in development and how it affects to the transparency initiatives. In the field ICT, studies are focused on case studies related with Open Data, e-government or web 2.0 applications trying to produce a benchmark of valuable features that offer a more scientifically explanation to the success of transparency initiatives.

Furthermore, in many cases the perspective is focused either on the information disclosure's (institution) perspective or the data users' point of view (Member States and civil society).

For those reasons, the present research aims to study a transparency initiative not only based on neutral technological features but also influenced by qualitative aspects that can be found in the field from the implied stakeholders. Likewise, rather than be focused on a single perspective, this study try to monitor the interactions discloser/user and contrast their perspectives about the efficiency of an initiative by collating the needs of the potential users regarding transparency; making the disclosed information useful, convenient and understanding how digital technologies improve the interactions between the information disclosures and data users.

Chapter Three: Methodology

3.1. Research design

A digital Open Data Platform in international development represents a complex universe of interactions. There are so many implied stakeholders that in order to develop a valid quantitative research the study would need a huge sample just to get the "big picture" of the platform performance. Nonetheless, the present research wants to understand a transparency initiative at the micro-level with an inductive approach, then a holistic in-depth investigation is required. Through a case study this study aims to go beyond the quantitative statistical data that already exist (e.g. transparency index) and try to understand this initiative from the main actor's perspective (Zainal, 2007).

Accordingly, the research works in a qualitative approach which enables the study to understand the impact of UNIDO Open Data not only from the perspective of an institution showing its main KPIs to the world but also from individuals who have a different approach towards any UN initiative. The research aims to investigate in a scenario of interactions at the micro-level and contrast the feedback of the information disclosers and data users. Those interactions and other related dynamics are analysed following the logic and structure of the "Transparency Action Cycle" mentioned in the theoretical framework. This approach creates a chain of qualitative data systematically recorded and archived by the researcher during the field work (Ibid. 2007).

Within this context, in the first phase the focus is set mainly on the information disclosers, in this case, two representatives from UNIDO Open Data Platform were interviewed. The goal of this phase was to understand more about their perceptions regarding transparency and the impact generated by the Platform. Furthermore, the research collected information about the main achievements and challenges of the initiative. This phase served to understand which were the goals of UNIDO by developing this platform and how were they related with the user's needs. Additionally, the research highlights the improvement in the accessibility and interactions with the users.

In the second phase, the information collected from UNIDO Staff was contrasted with the perspective of the Target Users of the Open Data Platform through a User-Experience whereas the users were surveyed by the researcher while they were using the platform. After this phase the first findings led the researcher to develop a third phase to find out more about the users-needs and contrast some inputs of the Open Data Platform in more detail. As a result, more information was collated on the user-needs through an online survey addressed to potential users. This third phase was completed using specific features of the platform and a comparison with some similar Open Data initiatives. The combination of these inputs collected within the three phases helped the researcher to identify if the disclosed information is more accessible, easy to use and convenient. Besides, the field research explained to what extent the needs of an Open Data user are clear and the interactions between UNIDO and the platform users can be improved. The figure 8 is a diagram to define the methods to investigate each collective (Information disclosers and Data users) and the related process of the Transparency Action Cycle.

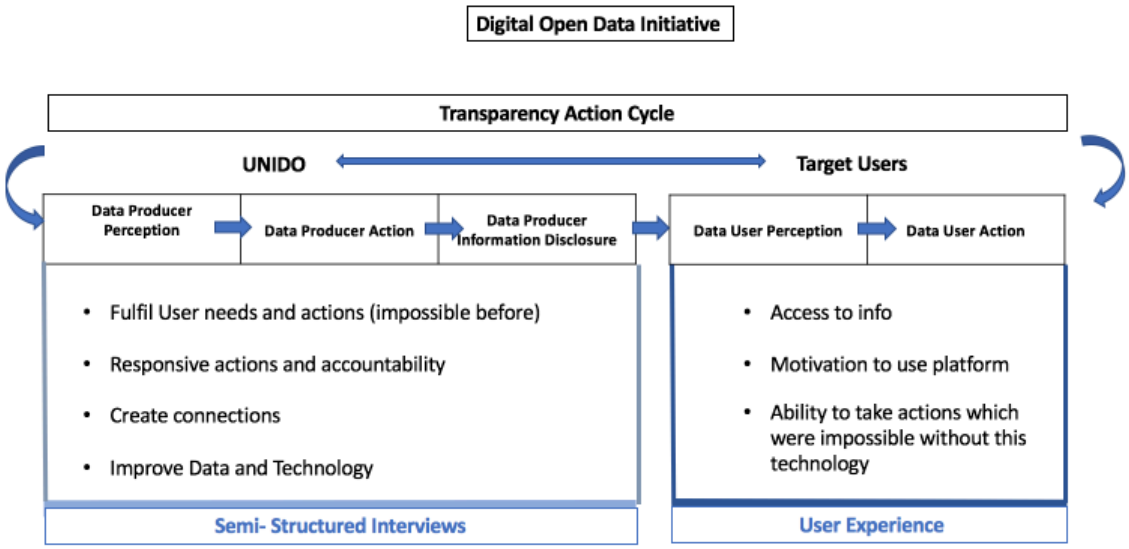


Figure8 UNIDO Case Study Research Diagram

3.2. Sampling

The sampling was divided in three parts:

3.2.1. Criteria for selecting UNIDO

Several organizations have an Open Data Platform. It was imperative therefore to select one based on certain criteria. The following criteria were used to choose an organization for this particular case study.

Identification: The Initiative should be promoted by an IGO implied in international Development field.

Location: The research should take place in Vienna because of the scarce resources of the research.

Contact with the University of Vienna: It facilitates the tasks of the research and shows the proactivity of the IGO itself to participate in the academic field.

Go live year: The digital technology integrated in those transparency initiatives is quite recent so initiatives developed before a particular period are not as interesting as the recent ones for this research.

Membership of IATI: Members of the assembly are preferred so they have committed to process the information following IATI standards.

Digital Open Data Platform: The initiatives that offer a digital Open Data Platform have priority for the present research.

Map visualization/ User Friendly: The “data revolution” makes difficult to perceive the essence of the information due to the vast amount of the information provided. In international cooperation a map visualization can make this information easier to understand and process (Pachinger et al.,2016).

Accessibility/Search Engine: The platform should be easy to access from different search engines and devices. The search engine accessibility was tracked and ranked by the specialized Search Engine Optimization tool.

Social media: Social media should be integrated to promote participation of the Users and increase traffic of new users.

The present research classified several transparency initiatives which had developed Open Data Platforms during the last years based on the above criteria (see table).

Identification	Location	Go live year	Member of IATI	Contact with the University of Vienna	Map Visualization (User friendly)	Accessibility/ Search Engine	Social Media
UNIDO	Vienna	2015	Yes	Yes	Yes	Very good	Yes
UNDP	Vienna	2013	Yes	Unknown	Yes	Very good	Yes
World Bank	Washington	2010	Yes	Unknown	Yes	Very good	Yes
The Global Fund	Geneva	2008	Yes	Unknown	No	Very good	Yes
European Open Data Portal	Brussels	2012	Yes	Yes	No	Very good	Yes
UNICEF	New York	2012	Yes	Unknown	Yes	Very good	Yes

Table 2 Categorization of features within Transparency Initiatives developed by IGOs

Only initiatives which fulfilled the research requirements were considered. Based on the above criteria, UNIDO was chosen, first and foremost for its location being in Vienna. There was no budget for conducting this study and it also implies that any other organization which was not based in Vienna would not have been very feasible. Further, there was also an already established contact of UNIDO with the University of Vienna. Most importantly, it was the last organization among the list to have an Open Data Platform and the assumption was that, the technology used would not be outdated or redundant.

The initiative used the digital Open Data technology following the international standards of transparency in cooperation field. The platform is user-friendly and offer mapping technology. Moreover, social media is integrated in their official website and the platform is accessible from several browsers and devices. The accessibility and compatibility was only available for the main website unido.org and not for the Open Data sub-domain. Accordingly, the main domain was monitored using Search Engine Optimization tools in order to check the page loading speed in mobile and desktop devices and some of the main traffic parameters such as total visits, average visit duration, bounce rate, traffic sources, subdomains etc. (see figure 9). The Search Engine Optimization normally includes several strategies to increase or improve the traffic in a website. Nonetheless, in this case this exercise was carried out to understand if the contents of the web loaded fast enough, as well as the geographical location with more influence in the traffic and the duration the users stayed on the website i.e. the bounce rate.

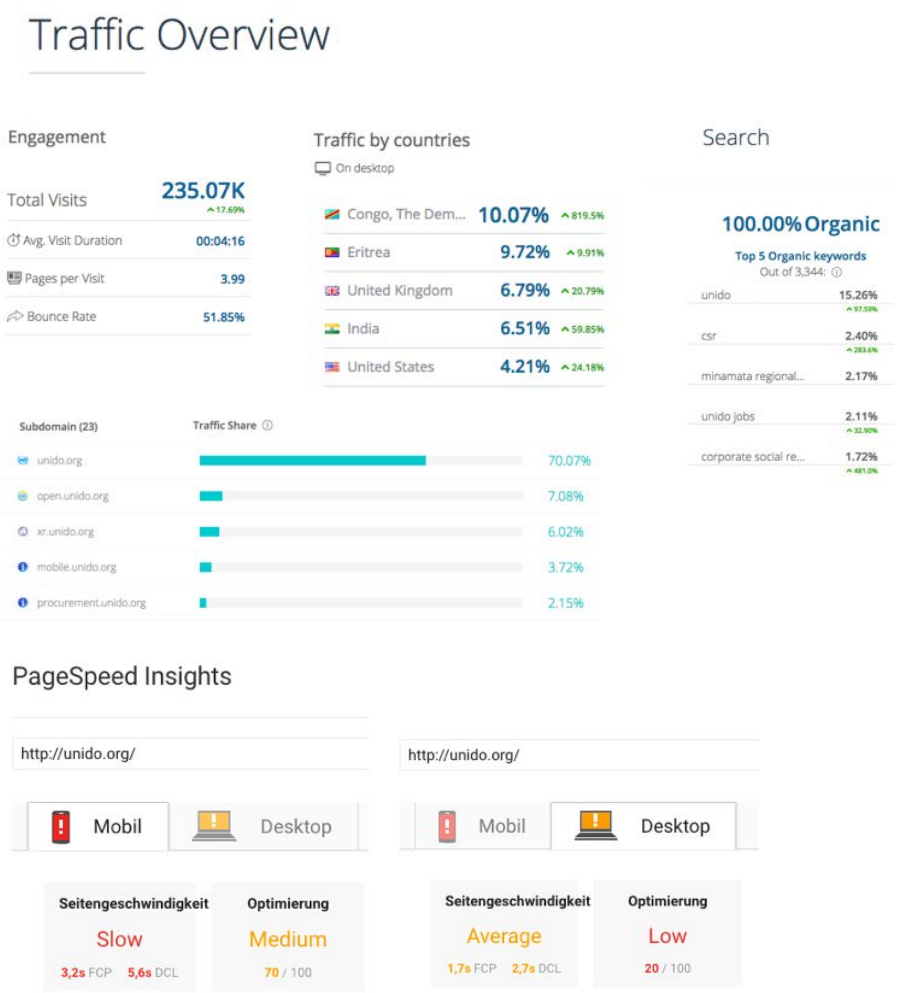


Figure9 unido.org Main Traffic Parameters

Subsequently, the output of this sampling, was the selection of UNIDO Open Data Platform as initiative to study and by extension two members of the UNIDO Staff were invited to participate in the first part of the methodology in this case, semi-structured interviews.

3.2.2. "*Personas*": Conducting User-Experience

The User-Experience approach refers to a person's emotions and attitudes about using a particular product, system or service. Based on the information of the first phase the research worked in the segmentation of the potential "*Personas*" of UNIDO Open Data Platform (Jenkinson, 1994). The research developed three "personas" or user profiles. The goal was to get a better identification of the target users of the Open Data Platform. However, they represent flexible models that can be re-adapted depending on the research performance but in any case, they served as a guideline to set the characteristics of the six participants needed for the User-Experience approach. As a result, of the previous inputs, the study elaborated *Personas* or profiles which have a concrete role in international development field, socio-demographic profile, goals and challenges regarding transparency and expectations concerning an Open Data Platform (see figure 10).

Figure10 Audience Personas of UNIDO Open Data

Based on those personas, six users were contacted. They fit in the target of UNIDO's Open Data Platform and cover a broad range of roles in international development (Table 3). Three of the selected participants were experienced users of the Platform, and were Members States or donors as suggested by UNIDO and the other three participants were potential users (selected by the

researcher). The users who did not know the platform in detail, have a good technology literacy level and experience in international development field and are actually working directly or indirectly for the Austrian government.

With this sampling, the research wanted to contrast the inputs of the habitual users with the potential ones and also increase neutrality, avoiding a sample limited to users which might have affinity to projects of UNIDO. In order to maintain the privacy of the participants their real names and exact role will not be displayed.

Name	Age	Gender	Role	Expertise	Knowledge about UNIDO's Open Data	Goals/Challenges
A1	34	Female	Communication department Austrian Development Agency	Communication and politics (Multilateral)	Limited	Inform to the public and institution about the Austrian projects in development field
A2	40	Female	Latin-American Embassy employee permanent mission UN	Political bilateral relationships	Very broad	Update the cooperation projects between her country and UNIDO
A3	36	Male	Austrian non-government development Cooperation organisation	Knowledge Management	Limited	Coordination and Management of development projects increasing the "learning from failure approach"
A4	58	Male	Austrian non-government development Cooperation organisation	Programme Coordinator in developing countries	Limited	To know more about the political background of UNIDO projects
A5	50	Male	European Embassy employee permanent mission UN	Industry and energy projects responsible	broad	To track the projects funded by his embassy and gain institutional visibility in the international development field
A6	52	Male	European Embassy employee permanent mission UN	Industry and energy projects responsible	Very broad	To track the projects funded by his embassy

Table 3 User-Experience Sampling

In both samplings (Information disclosers & Data users), the participants have been selected through an expert sampling. This sampling comprises a group of persons with known or demonstrable experience and expertise in some related area of the study. The main reason for the expert sampling is because it is the best ways to draw upon the understandings of people who have specific knowledge and also to elude a random sampling of participants which would not be really appropriate (Etikan, Musa & Alkassim, 2016).

3.2.3. Target users for understanding user-needs

Thirdly, the sampling used to find the participants for the online survey was the snowball sampling (Biernacki & Waldorf, 1981). It allowed the researcher to spread the online survey between groups which were related with international development and finally got the input of 20 participants through the personal network of the researcher. Besides, within the Open Data of UNIDO 20 projects

were randomly selected.

The selected projects should have status “ended” and the timeline filter from 2014 until 2016.

3.3. Instruments used

To gather data, three sets of instruments were used.

3.3.1. Semi-structured interviews – UNIDO staff

Firstly, semi-structured interviews were used to collect data from UNIDO Staff. The participants collaborated voluntary as main responsible of the Open Data Platform. The researcher worked in an interview guide which served to give some structure to the commented topics during the interview (see Appendix I). The design of the interview was tentative and modified in accordance with new findings (Rubin & Rubin, 2011). The Interview guide was divided in the following thematic areas: (a) general understanding of the Initiative; to know what were the motivations of developing this Platform and why should it be useful and able to engage the users to participate; (b) user profile and needs; to know who the target users are and their needs and how this technology can change their daily work; (c) interactions information discloser/target user and usability; to understand how is improved the interactions with this technology and if it improves the visibility and usability; and (d) accessibility and accountability; to get a broader view about the increase of accessibility and accountability that the platform can provide.

In short, the interviews helped the research to get the first inputs from the perspective of UNIDO in relation with the potential of this technology to increase the accessibility, usability and engagement of the target users. Further, it helped the researcher to understand the motivation to build this platform and the expected future outcomes.

3.3.2. Task-based scenario for User-Experience

Secondly, a User-Experience was designed to get real-time inputs of the users while they fulfil several tasks in the Open Data Platform. However, before starting with the field research, the researcher analysed the main active features in the Open Data Platform (in 2017) and reviewed the potential goals of the personas described in the sampling. Based on the combination of both inputs the study developed three task-based scenarios[27] that was the core of the User-Experience. The goal of a User-Experience is to monitor the perceptions as well as emotions or attitudes of a person by using a product or in this case a service. The present study develop this method by recreating three scenarios adapted to the three different roles in international development and consequently with different needs and tasks to solve. The users were supposed to take over all three different roles and their tasks (see table 4).

[27] Usability.gov: Scenarios, retrieved from https://www.usability.gov/how-to-and-toos/methods, accessed 10 January 2018.

Persona	Need	Tasks
Donor's representative with experience in budgeting and project planning	The participant have to present the budget for 2018 and need therefore an overview about the Austrian Aid investment in Africa in the previous years	• Summarise and download how much did Austria fund within the different projects in Africa in 2017. • Detail how much and in which countries was the money invested
International Development Consultant. Collaborate with donors and recipient countries in the field of International Cooperation	The Consultant needs to check a project in Ethiopia she is involved in with the ID140092: "Productive work for youth and women through MSMEs promotion in Ethiopia" 2017	• Review the current Status of the budget and the achievements of the project. • Find the local partners.
PhD Student or journalist from a developing country. Write about transparency in development projects.	The User writes his Thesis about transparency in International Development and needs to contact the responsible person of the Open Data Platform. He needs to access from the smartphone because he does not have a computer or access to a well working Wi-Fi.	• He wants to leave a request to the Platform's responsible about the budget used to develop the Open Data Platform and invite the responsible to a personal interview

Table 4 Task-based scenario

This instrument was used to evaluate if this technology makes the disclosed information easier to understand and use as well as more accessible and to what extent improve the interactions between information disclosures and data users.

3.3.3. Needs list for users

Thirdly, the research was enriched by the previous inputs but needed to be more specific by identifying or collating the needs of the potential users. Accordingly, a list of the 20 core needs concerning transparency was collated. Those needs were listed based on the inputs of the IATI standards and the Open Data Barometer ("Open Data", n.d. Methodology). The Open Data Barometer aims to uncover the true prevalence and impact of Open Data initiatives around the world. It analyses global trends, and provides comparative data on countries and regions using an in-depth methodology that combines contextual data, technical assessments and secondary indicators. Afterwards, those features were ranked online by potential users through a Google Form. This survey specified a little bit more the needs and wishes of the users concerning transparency in an Open Data Platform.

Similarly, some results of the survey were complemented by a review of similar Open Data initiatives with similar features which are appreciated by the users. The goal was to estimate how similar Open Data deal with these needs and compare them with the approach of UNIDO.

3.4. Data collection

The data collection took place in three phases. They are as follows:

3.4.1. First phase: Interviews with UNIDO staff

In the first phase, two members of UNIDO Staff were interviewed at the United

Nations Vienna Head Quarters. The main concept and guidelines of the interviews were explained to the responsible person by e-mail or phone calls. The interviews were open-ended (Silverman, 2006). Based in general guidelines, the interviews ensured that all participants were exposed to similar stimuli and thereby, provided a common base for the data analysis. Interviews were recorded with the consent of the participants and the transcription was sent to them afterwards. Each interview lasted in average around 40 minutes.

3.4.2. Second phase: User-Experience

Six participants took part in the User-Experience. All participants were informed and their respective appointments carefully planned. This planning was very important because the inquiry was developed at the User's environment (e.g. workplace), promoting the reality of the normal platform use with the same devices and resources of its daily use.

The User-Experience lasted around 60 minutes. It started with a short interview where the participant provided an overview of the work. Further this was also the trust-building phase with the participant. Then the participant was given a description of the three scenarios with concrete tasks and asks the participant to execute the tasks. Further, the researcher summed up the perceptions of the users and asked them to rate those impressions in a scale from 1 to 5. As a result, the research got not only the users feedback but also a more accurate ratio.

Within the User-Experience the participants commented about their impressions through the "thinking out loud" technique and the researcher was asking some questions based on the contextual inquiry approach. The thinking out loud technique helps the participant to explain "aloud" as they were performing different tasks so the researcher can better understand their perceptions and cognitive process by using the platform. All the raw data was recorded (audio only) and the user perceptions were summarized in Google form and classified as key indicators regarding transparency, accessibility, usability and interaction within the platform. In some cases, the structure of the User-Experience changed because after the first experiences in the field, it was observed that participants were more open to explain personal opinions after the operative part which was more related with the features and technology.

3.4.3. Third phase: Collating user-needs

The above two phases enabled the researcher to specify the goal of the Open Data Platform and represented the possibility of understanding the user's perceptions regarding transparency and concerning the platform itself. However, even though the data collected in the first phase revealed some needs of the users, in the second phase the users themselves could not explain their needs clearly. For this reason, it was imperative that the needs of the users were explicitly mentioned and their correspondence with platform features confirmed.

Thus user-needs were collected in June 2018 through an online Survey addressed 20 participants of the researcher's network. In July 2018 the results were analysed within the Google form platform (see Appendix 2), so the researcher could have a clear picture of the user-needs. Finally, the researcher

monitored the availability of the 12 best rated features and monitored their availability within other platforms such as the UNDP or the Data Portal of the African Development Bank Group.

3.4.4. Random check of the Open Data Platform projects

There were some random check of 20 UNIDO projects that were completed from 2014 until 2016. The ones offering “Project Documents” to download were identified. The projects were selected randomly using 20 numbers sequences from 100000 to 150000 with a random sequence generator and the results documented in a spreadsheet (see Appendix 4). This random check was conducted to evaluate if the lack of available project document within ended projects was something usual in this platform or if it affects to a small amount of projects and also if there is any explanation to clarify those missing documents.

3.5. Data Analysis

The data of the first and second phase were analysed mainly through the program Atlas.ti. This program allows doing qualitative analyses and establishing a body of evidence. This computer software helps users to organize and analyse non-numerical or unstructured data such as interviews. In “Atlas” the researcher classified information and examined relationships in the data. Furthermore, it can combine analyses by making links, shaping and modelling. In addition, it is possible to do cross-examinations in various ways (Ritchie et al., 2013).

Due to the essentially qualitative nature of the data, the data was subjected to content analysis adapting Tesch's proposed steps in data analysis with the data divided into main categories such as socio-political context, user needs regarding transparency, interactions, accessibility, usability, information action and perception etc. and other information emerging from interviews (Tesch, 2013). The main themes were identified as codes. The codes were then marked next to the appropriate segment of the text and then the organisation of the data was monitored to check if new categories or codes emerge. The codes were grouped into “Family codes” and every family code was analysed through the elaboration of a Code Network (see Appendix 5). The analysis will be therefore essentially thematic and based on the categorization of content areas. The system serves to pinpoint the most prominent experience and perception of Data-Users and Information-Discloser that characterize the research population (Ibid).

The inputs collected from the third phase of the research were classified in spreadsheets and the section of “responses” in Google form also offered clear charts, so the research could resume and simplify the information collected. Finally all the information collected in the field research were analysed following the logic structure of the transparency action cycle mentioned in the theoretical framework.

Chapter Four: Findings

This chapter sets out the results of the interviews, User-Experience, online survey and the direct observation of similar transparency initiatives and grey literature. Every phase of the field research affected and modify the methods and results of the next one. At the same time the platform itself has been modified and therefore those changed were monitored before each new research phase. The next inputs represent describes first the needs of the users regarding transparency. This will be followed by the analysis concerning the appropriateness of the Open Data Platform of UNIDO to make the information accessible, easy to use and convenient. Finally, the study tries to understand how digital technologies improve the interaction between the information disclosers and data users.

4.1. Needs of users regarding transparency

The needs of research participants were collated and based on the analysis, it can be seen that the users described their thoughts and interest concerning transparency. It can be observed that users asked for more information on projects and future roadmaps, on certain processes within the organization among other needs. Further, this section also presents the user-needs from the perspective of UNIDO itself. This is relevant as the needs of the users and UNIDO intersect but at the same time are in some cases diagonally opposite.

4.1.1. More information on projects and future roadmaps

The users explained that their main need concerning transparency in an Open Data Platform is to get information or news about the new projects or future Roadmap of the institution. For many users it is important to surf through the different existing projects that they are funding as donors but also the new projects in the pipeline. It can serve them to get new ideas and options to cooperate in existing projects and to know how they can diversify a limited budget among the best fitting projects. In the case of the private companies or suppliers it serves them to be more efficient to apply as a procurement process in a more agile way and the tax payers and journalist did not have clear information about the budget or project document have now access to this information.

The Open Data Platform of UNIDO has features to promote a descriptive approach. For instance, the “Home” section of the platform shows clearly the goals of the institution by showing the projects “at a glance” and within the project details one can see the budget remaining for the next months and the expected end date. When asked about the initiative of the IATI, most of the participants did not know much about it. It was an interesting contrast because this initiative was highlighted by UNIDO as the one of the crucial milestones to install transparency in international development. Conversely, the users were not really aware about it and did not mention a clear need related with those standards. The IATI agreements are irrelevant for the users as long as the transparency level increase. Some users were sceptical when they saw some IGOs of United Nation as members involved in the creation of this initiative.

4.1.2. Granularity of the information at the project level

The platform users expressed that the platform helps to get general figures or a general overview but they explained the need of using the technology also to offer more data at the project level. For instance, the participants asked for a separate feature to show the main achievements and lessons learnt at the project level. During the field research, there was no separated feature to show the project achievements, however UNIDO has improved recently the option Outcome Indicators and risk level where the user can get a short description about the goal of the project, some achievements and potential risks (see figure 11).

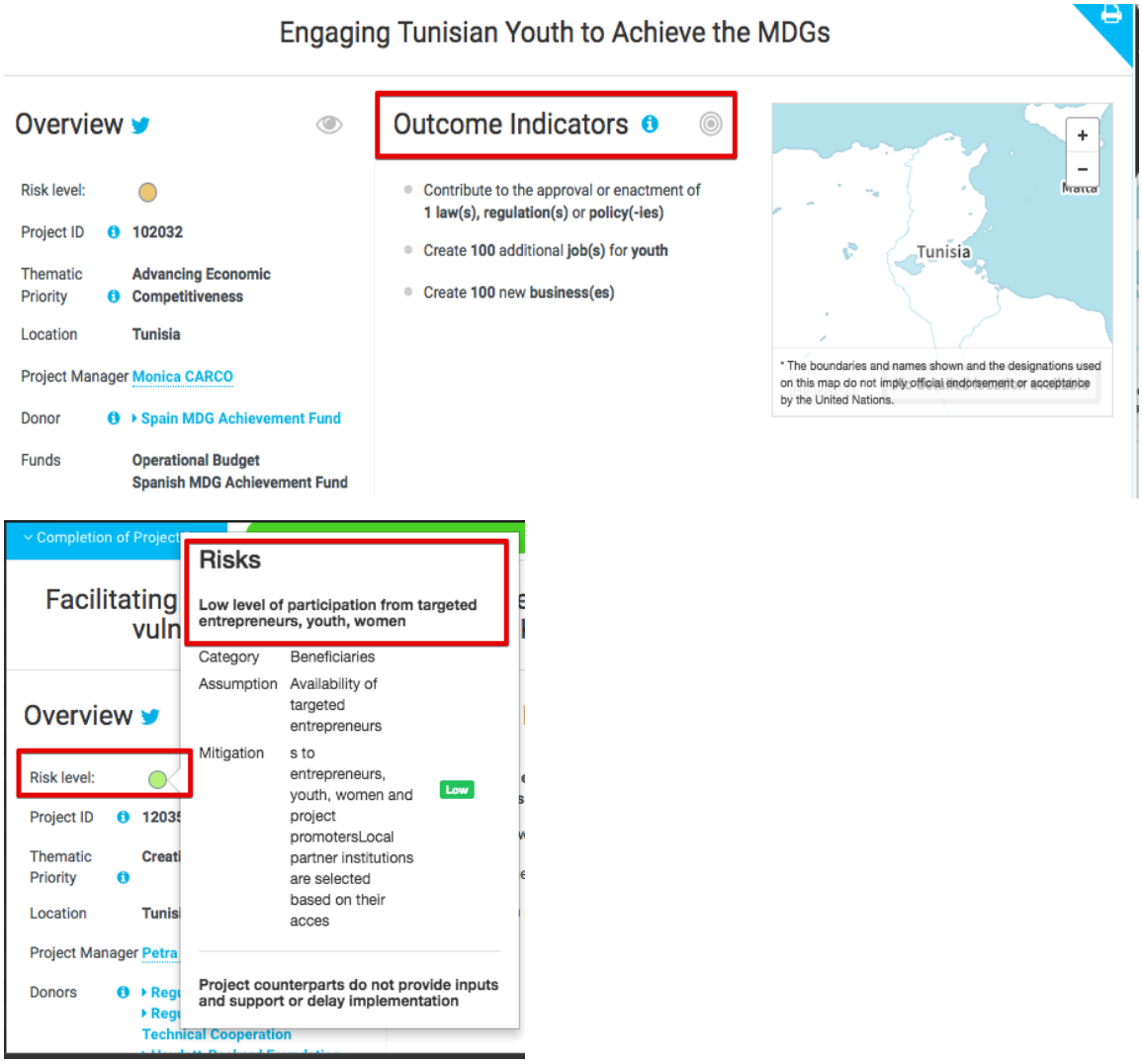


Figure 11 Outcome and risks indicators

Nonetheless, the users commented that the accountability and management of mistakes by every actor in international development is becoming always more important. During the User-Experience, some participants who work with local NGOs and different partners in developing countries explained that they are working to promote the “learning by failure” and encourage their partners to have an open approach to the mistakes with the goal of improving instead of getting scared from the risks of losing funds. The participants knew of course that UNIDO is using the “lessons to be learned” approach already in the project documents and through the independent evaluation process.

However, the participants found that the IGOs highlighted their achievements way more than their mistakes or failed projects and that also lead to decrease the perception of transparency by the users.

The participants of the User-Experience were mostly satisfied with the general overview offered by the Open Data. When they did tasks which required more detailed information of the project they trusted that the project document were available in the platform. UNIDO itself considers that this detailed information represents an important feature which is crucial for the data quality. In this context, UNIDO also wanted to monitor its data quality and has developed what they call “Data Quality Exercise”. To measure the completeness of project data, each project is rated from 1.0 (poor) to 10.0 (excellent) based on a set of predefined criteria, e.g. Project Document is uploaded, Outcome Indicators are defined, Gender Marker is assigned to outputs, Risk Information is entered, etc.

In the Open Data Platform UNIDO called this index “Ongoing Projects Quality Score” whereas their lowest average QA Score was 7,3/10 in 2013 and the highest was in 2016 with 9,2/10. In 2018 they have 8.2/10 (see figure 12).

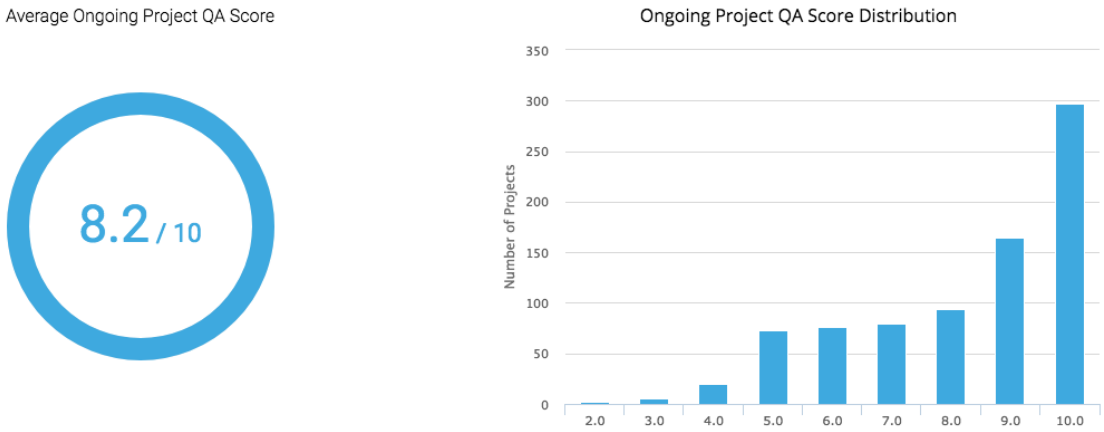


Figure12 UNIDO average QA Score 2018

Other demand of the user regarding transparency at project level was the disclosure of testimonials of aid recipients as well as their suggestions to improve. At the moment, there is less information of that kind in the platform but UNIDO staff explained that they were working in a “story telling approach” in the official website (unido.org) which they differentiated from the Open Data as channels which target different public. Likewise, the users talked about the possibility of getting information at sub-national level for instance per city or region. UNIDO offers already a good level of detail but there is still room for improvement. A good example to explain this potential to improve would be the Open Data of UNDP where they displayed within the map the number of projects not only per country but per city (see figure13).

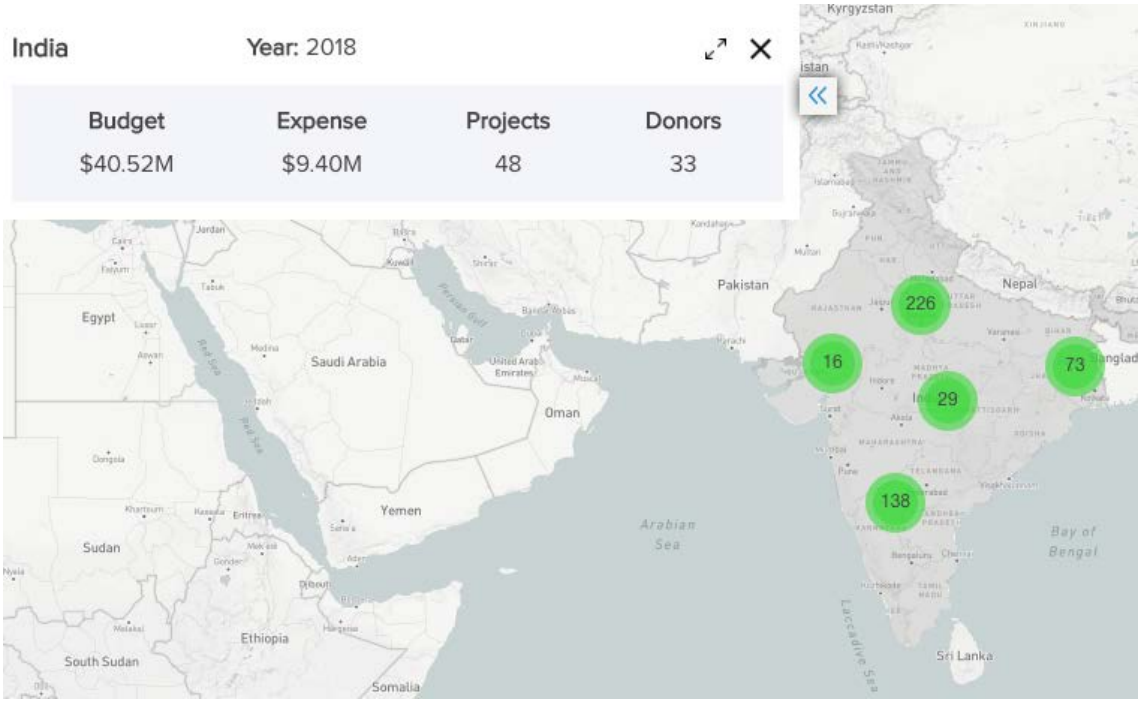


Figure13 UNDP Open Data projects per region in India

4.1.3. Ongoing project Quality Assurance (QA) Score and User-Experience

The demand for data quality at project level was expressed by the users after fulfilling one of the task within the task-based scenario presented during the User-Experience. The participants were asked to find the outputs of the project ID140092 in Ethiopia. The first information that the participants checked was the "Estimated Timeline" and "Financials" available in the Open Data dashboard. They realised that the project had spent more money than expected in the budget and they also checked that the project is presented with "estimated start" in March 2014 and is estimated to get closed in December 2018 (see figure 14).

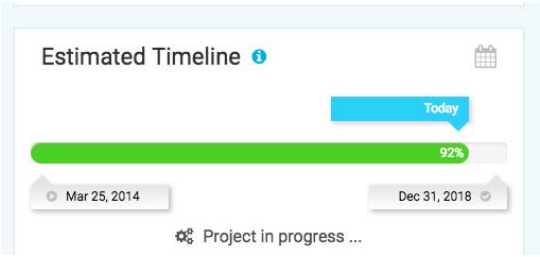


Figure14 Estimated Timeline Project ID 140092

At the same time when the participants downloaded the project document the information differed showing as official start date: October 2014 (Preparatory Assistance) and January 2015 (Operational Start). In both cases the data differs with the data published in the platform dashboard (see figure 15).

Project of Ethiopia

Project number:	140092
Project title:	*"Productive work for youth and women through SMEs promotion in Ethiopia"* (YoWEP – Youth and Women Entrepreneurship Promotion)
Relationship to integrated programme	Programme for Country Partnership PCP-ISID
Thematic area code	PRP
Starting date:	October 2014 Preparatory Assistance January 2015 Operational start (including inception phase)
Duration:	3 years

Figure15 Timeline published in Project document ID140092

Another interesting input is that the Project Document was signed by the responsible person of UNIDO and the Ethiopian Ministry of Industry in August 2016 while the operational start was supposed to be in January 2015 (Figure 16). This dynamic is probably quite normal in development projects but it is important to explain it in order to facilitate the comprehension of the users who do not work in the field and not familiar with this administrative nuances.

Figure16 Signature of the project document ID 140092

In the same project, it was observed that the Progress Report which is the Progress Report no. 3 of January 2016 so the research is missing the other reports no. 1 and no. 2. The participants mentioned that the delay in the publication and update of these documents normally take some time and can have some delay but a "no show" in two years is rare. While this project lead the participant to miss some documents the official QA Score of UNIDO was 10/10 (See figure 17).

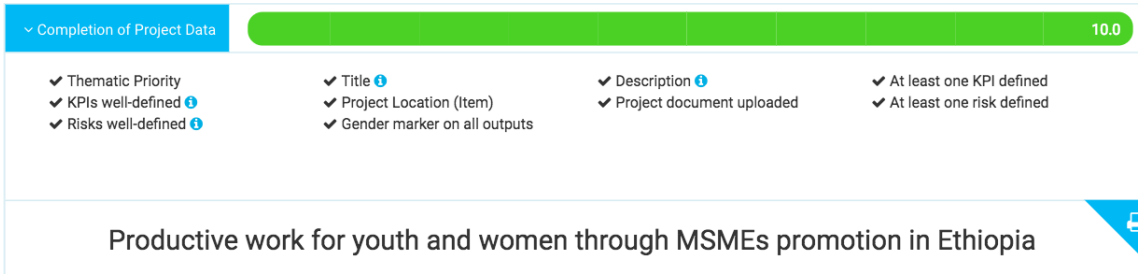


Figure17 UNIDO Quality Score ID140092

Basically, this QA score rated with the same level of importance the criteria “risk-well defined” as the criteria “Thematic Priority”. If the project contains the ten parameters the score is ten and if the project has seven parameters the score is seven. Following this logic, if the project is completed in 2014 and has no project document uploaded the QA Score will be nine. Likewise, if a project has no description, no project document uploaded and no gender marker on all outputs the score will be seven (see figure 18).

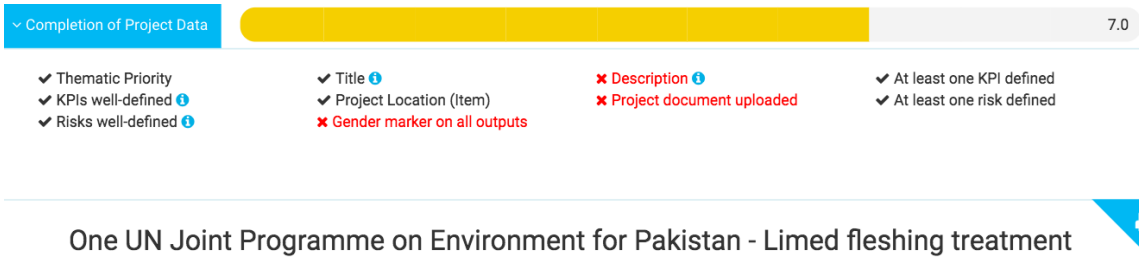


Figure18 UNIDO Quality Score ID 104146

The users expressed the need of having a Project Document to get a wider understanding about a project. The general assumption is that once a project is complete, there would be a project document uploaded in the completed project. Hence, a random search was conducted for 20 projects that were completed and published in UNIDO Open Data Platform from different countries. This was done in order to collate the available project documents. From the 20 projects randomly checked, 55% of them had no project documents at all in attachment, only 5% had progress report and 15% had independent evaluation (see Appendix 4). This issue can be partially explained by reading the “About” section of UNIDO in the in the Open Data Platform:

This section mentions that, “*The scope, quantity, and quality of the information on the Open Data Platform will be improved and extended on a continuous basis, in keeping with UNIDO’s commitment to quality and best practices. Certain programme and project information, however, will not be made available to the general public to preserve individual privacy; legal privilege; contractual, proprietary, or commercial non-public information; and internal governance matters”*. The random check of this study reveals that the quality of information still improving with continuous basis. Nonetheless, it would be useful if there were precise information in the same section or at least in the Open Data Platform about the UNIDO’s commitment to quality and best practices.

4.1.4. More detailed information on Procurement

One of the main priorities of the users regarding information quality was the need of higher transparency concerning procurement, especially on who is providing what service. This feature is perceived by the users as a clear sign of transparency. UNIDO’s Open Data Platform offers some information about procurement but firstly, the users were not aware and secondly the published information concerning procurement is very general so the user still do not know much about the vendors and services.

The present research was trying to check some examples at the project level however, at the moment, UNIDO only offers general statistics about the number of procurements and their categories. It is not possible to know who is providing what service. One can get some general numbers at the country level but is not possible to find a list of suppliers neither at country level nor at the project level (see figure 19).

Project/Procurement Activity in India in 2018

Show 100 entries

Project	Total Service	Total Material	Total Technical Cooperation
Development and adoption of appropriate technologies for enhancing productivity in the cement sector	$21,276	-	$21,276
Development and adoption of appropriate technologies for enhancing productivity in the Indian bicycle and bicycle parts sector	$133,877	$176,217	$310,094
Development and adoption of appropriate technologies for enhancing productivity in the paper and pulp sector	$25,573	$8,945	$34,518
Development and promotion of non-POPs alternative to DDT	$3,246	$2,100,084	$2,103,329
Environmentally Sound Management and Final Disposal of PCBs in India	-	$3,595	$3,595

Figure19 UNIDO Procurement general figures

The participants in the User-Experience were interested in knowing more details and although the project documents offer good inputs, they expressed that a PDF format is available in most of the institutions but does not represent a technological improvement. This feature was compared with other institution's Open Data Platform and it was found that the UNIDO Platform is a promising. UNDP offers a better granularity in the feature procurements identifying the purchase order with the description, date, vendor and amount (see figure 20).

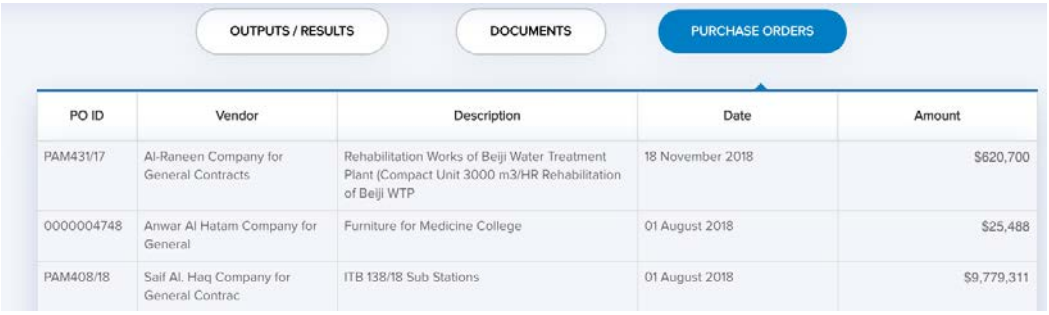


Figure20 UNDP Procurement description

It is clear that there are limits due to the confidentiality of commercial information but this does not affect all projects and countries and would represent a clear improvement in transparency as mentioned by the users.

4.1.5. Easy use

Most of the users confirmed that they have not used this platform so often and as in almost all technological tool a learning period is needed. The research confirmed that most of them did not know many of the features and had problems at the beginning to understand the filters structure in the platform. They needed sometime to understand if they were filtering per donor or recipient country. Hence, the possibility of having a tutorial was perceived as a very positive action. UNIDO offers some information icons to explain more about every feature (See figure 21). This can help a lot to the users mainly if they are working in the international development field. A normal user might not understand specific

concepts such as projects outputs and the difference with project outcomes.

For this reason, those info icons represent a positive improvement to understand and use the platform

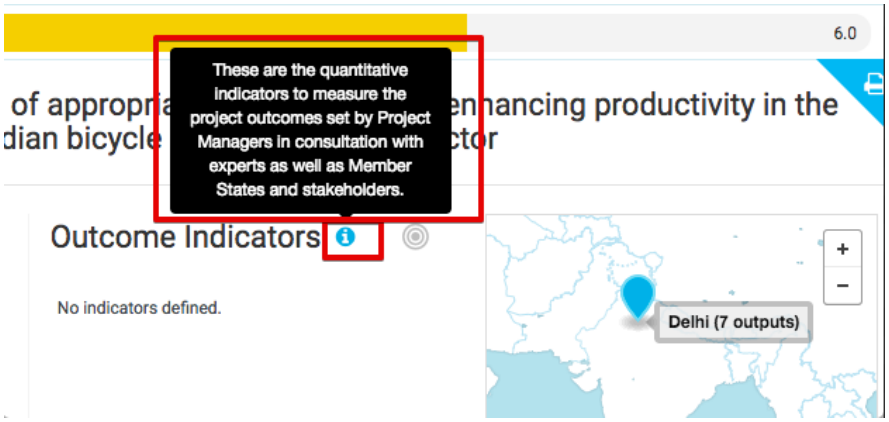


Figure21 Information icon UNIDO

Another need or feature commented by the users was the multilingual support. They mentioned the possibility of offering the information in more languages. The users expressed their understanding about the technical complexity of making this platform multilingual and did not mention it as a crucial need for the Member States and donors because their work language should be English. Nonetheless, they expressed this feature as a "nice to have" because many aid recipients are not really fluent in English. Some users mentioned that they are always grateful if they find it in their mother tongue but of course is not a priority for them.

Some users also explained that it would be great to have the option of comparing the data in a sort of benchmark. For instance, to compare three similar projects with their main KPIs at a glance. At the moment, the users can download the information in CVS format or PDF and build the benchmark in their computers by themselves but none of the platforms checked, offer this option including UNIDO, or the Open Data Platforms of other institutions.

4.1.6. Participation and engagement in building the Open Data Platform

The users commented that they should be informed about new features in the platform and also consulted about the information they think should be displayed. They mentioned, for instance, the need to integrate social media in the Open Data Platform although social media also filtered and control the information published. They explained that the engagement of the Member States is important but also of the people at the ground. The users agreed on the need of an integration with the social media and the participation of the visitors of the platform. Nevertheless, this participation through social media could be conflictive in some countries because several activists have been arrested for expressing their political point of view in the social media. As an example, in the figure 22 the tweet which was posted by the prominent Bahraini human rights activist Nabeel Rajab who was released after two years in prison, over charges that included

sending offensive tweets[29]. Some activist were also arrested because of the use of those channels.

Figure 22 Twitter publication of human rights activist

Regarding other further interactions, some users mentioned that the contact details of the person responsible for the platform or a particular project is also an appreciated feature. They explained that there should be a system that could update the local partners and participants. This is because in some cases the person referred in the project document change and there is less or no information at all regarding this. The research confirmed that the name of UNIDO project manager is always available at the project level which represent a big step into transparency and accountability and the contact form is the main feedback tool. As a result of this contact form the users talked about the need of knowing what happen with this feedback and cited the feature of Frequently Asked Questions (FAQs) as another good step forward in the transparency level.
The participants explained that the participation of the Member States and UNIDO should also increase their level of visibility within the communication to the public about this mutual collaboration. The Member States want to gain visibility and to check what the other Member States are doing. They also mentioned that since the budget situation is decreasing and the have less resources are focused on obtain a certain Return of Investment (ROI), meaning they should get the most of the funds invested and try also to involved national private companies which can also get some profits from the projects. One of the participants said that, "*We have invested a lot of money in this project and I do not see our logo in the Open Data". He further mentioned that, "Yeah sometimes there are some members which are not donors here but they are getting profits from the project we funded".*

4.1.7. More information on political background of projects

Many participants explained that the published data is influenced by several factors and for this reason they mentioned the need to know more about the political background in order to understand better the disclosed information. For instance, a recurrent reference was made concerning projects which continue getting funds without proven efficiency or to the fact that in many cases the project responsible is spending the funds just because otherwise they will get less money the next year. Regarding this, one of the participants said that, *"They maintain this project because they have to spend the budget".*

[29] Index of censorship (2015). Ten countries where people have been arrested over social media messages, retrieved from https://www.indexoncensorship.org/2015/01/ten-countries-people-arrested-social-media-messages/ accessed 20 September 2018.

The users stated that there might be some political decisions behind some actions when countries which were supported regularly stop getting projects in a short period of time. The participants also mentioned the hiring process for the field work with less traceability without knowing the context in the background.

For instance, the users explained that UNIDO hired some professionals coming from the European Head Quarters while there were local qualified employees available in the field who were aid recipients.

4.1.8. UNIDO Perspective about User-Needs

UNIDO staff stated that the Member States required more information and transparency in terms of the projects they were engaged in. This was a demand for the whole UN system and not just UNIDO. As commented in the theoretical framework, the motivation for the use of technology in an initiative is generated by the need of solving a problem. In the case of the UNIDO Open Data Platform, the responsible staff informed that the problem to solve was the lack of transparency. One of the participants said that, *"The decision was made a few years ago to implement because a couple of things was going on within the UN system, there was quite some criticism about lack of transparency so at the time not only UNIDO but other divisions of the UN there was not much data that was being presented to our Member States". The participant further mentioned that, "It wasn't that we thought, it was something that was referred to us by some of our Member States".*

UNIDO explained that the main need of the Member States (in this case the users) was to have more transparency about the initiative and projects from UNIDO. This main need was split by UNIDO in two sub-needs which are to have better access to the information and make data easier to process and compare. UNIDO decided to extend the access to the information from the Donors and Members States. This information was already available for them but only in a private extranet and now is open to every internet user through an Open Data Platform. Within this initiative UNIDO estimates that they can fulfil also other needs of the users such as saving time, improve visibility, promote participation etc. Apparently, the "traditional" system of getting information before the development of this platform, was the research initiated by Member States through different websites and repeated contacts through phone calls to the person in charge of the different institutions and projects.

Conversely, UNIDO stated that now every user can access to a central point of information online from every device and get all details at a granular level of the project. The option of downloading a project document in PDF was not available for everyone before, as informed by UNIDO, while now the user just need a digital device with internet connection. Another main issue or need of the users from the perspective of the information discloser is to share the information with the rest of the agencies and partners the members and donors are working with. Before the Open Data Platform, this "sharing" was limited to the internal network and the communication strategy of the involved participants. Contrarily, it is now available online for everyone. This need is linked with the users' wishes described by UNIDO about accessing to the data with better visibility and higher usability.

UNIDO tried to accomplish this demand by showing the main KPIs, in this case with focus on the financial information, in a simple chart and a map with the

localization of the project and its responsible as well as a brief description of the diverse attachments and with the rest of the documents related to the project. UNIDO staff confirmed the need that users expressed asking for more accountability.

UNIDO explained that from the point of view of information disclosure; the Member States are now able to double check if the published information is correct and if they would find something which does not fit they can contact them per phone or write an e-mail. Similarly, UNIDO also explained that one of their biggest challenges is the improvement of the data quality. In an internal quality score system developed by UNIDO, they have improved from a level of less than four points to the actual score of 8.7.

Another aspect explained by UNIDO was the demand of the Donors and Member States of getting more information about the contracts (private companies and UNIDO consultants). The persons, companies and institutions involved in a project and by extension getting economical profits from the institutional funds would be included in the new feature "procurements". UNIDO staff said that even though in the beginning of the Open Data Platform the motivation for the development of this Transparency Initiative was to solve the needs of higher transparency of the external users. However, UNIDO added that it was not just for external users but also there was a clear internal need to fulfil within UNIDO itself. With regards to this he said that, *"Yeah it was doublage, it was basically providing a platform to give our internal stakeholders and project managers and our Member States and donors the information that they need about the initiatives".*

In this context, the information discloser has an informative need to its own staff and also to the general public. On the one hand UNIDO informed about the need of "informing the world" about their contribution. On the other hand, there are further external factors about the actual context in international development with clear rules and agreements about how to communicate the outcomes of an institution such as the Result-Based Approach. For this reason the KPIs have to be clearly published.

It is important to remark that UNIDO developed this platform in only six months and went live in 2015 which was the year of the publication of the Sustainable Development Goals. Also within the High-Level Forum of Aid Effectiveness there was a commitment to publish data with particular Standards by 2015. During this point, the IATI Initiative became the biggest reference for the IGOs to publish data following its principles. It was an added impetus when this transparency initiative aligned with the Sustainable Development Goals and from 2015 on, there were clear rules or agreements for the standardization of data publishing in development. With reference to this, UNIDO said: *"I mean the Open Data Platform shows our impact in a systematic way on how many jobs we created or what our impact in terms of reducing poverty is*". This participant further added that, *"Yes the main KPIs and the projects, exactly, major reason…we have our own KPIs so we are trying to re-align everything in line with the SDGs".*

4.2. Accessibility, Usability and Convenience of UNIDO Open Data regarding transparency

The following findings are the result of the User-Experience with six participants which accomplished different tasks in a task-based scenario and tried to identify if the Open Data Platform of UNIDO make the disclosed information accessible, easy to use and convenient. The findings reveal that many needs of the users regarding usability are close to the usability features.

This section elaborates on the convenience, accessibility, role of technology, the level of literacy, internet penetration and the usability of such a Platform.

4.2.1. Convenience

Most of the users within the User-Experience did not think that this initiative will increase the quality of their daily job or interaction with UNIDO. The participants explained that they had the information needed before this Open Data. Contrarily, they mentioned that this platform represent a productive secondary tool for double-checking the information they get from other sources. One of the participants said that, *"This platform is not such a big thing because I can find the information somewhere else. It was useful to inform my country about particular projects but I use the extranet most of the time". The participant further mentioned that, "It is a combination of all these tools, you cannot use just one, and you have to double check... It can happen that you use the extranet for certain reasons and you have the Open Data Platform to recap all the projects all together".*

The participants referred the platform as a good tool to make reports in a visual way even for users who were not very familiar with UNIDO's activities. This statement get reinforced by the explanation of UNIDO in the sub-section "information discloser" under the section "About" in the open data of UNIDO which explains the following: *"Although UNIDO is committed to the quality of its data, UNIDO makes no representation or warranty, express or implied, as to the completeness or accuracy of information available on or through the Open Data Platform. Recipients of information from the Open Data Platform should apply discretion when using the information. UNIDO will not be liable for any direct or indirect loss or damage arising from the use of the information".*

There is a relation between convenience of the platform along with data quality and accountability. All three are needed inputs to increase transparency. UNIDO explained that it is accountable for the issues related with their own commitments to quality and best practices but they make no representation or warranty of the information available on the Open Data Platform developed by themselves.

4.2.2. Accessibility

With regards to the Open Data Platform, UNIDO highlighted accessibility as its biggest achievement using the expression *"pure accessibility"*. UNIDO clearly stated that the target users of the Open Data Platform are its Member States and Donors. Nonetheless, these users had access to this information before this technology. The biggest difference, according to the participant, is that now this access to the information is available in a more visual and flexible way. In any case, the information is open for every user with access to internet and all the

participants of the User-Experience agreed on the huge step forward that digital technologies represent offering live access.

During the User-Experience there was an issue with the visibility. Many participants started to look for the open data in a search engine (google.com) and landed in the UNIDO main website. Once they were in UNIDO main website (unido.org) it took them very long to find the link of the Open Data. Some participants visited the main menu and could not find it. Other users came through the search icon after landing in the "news" section. Likewise, one user even complained because he had to scroll down three times until he arrived at the website footer to the section "learn more about UNIDO projects" (see figure 23). For this reason, the participants affirm that the visibility of the link to access to the Open Data was not ideal and it can affect also the accessibility.

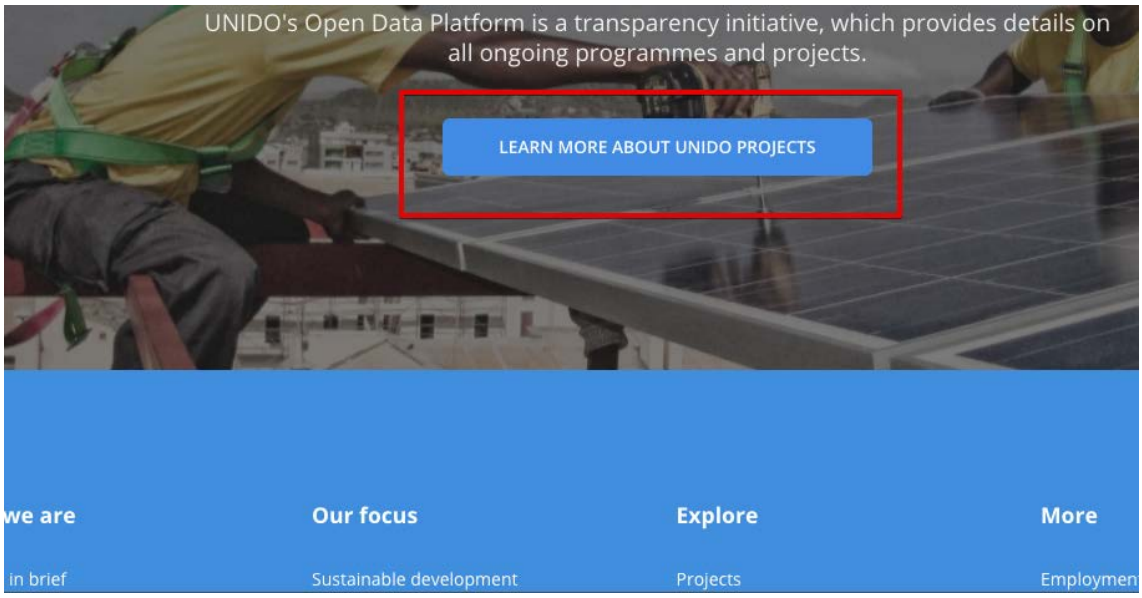


Figure 23 Link to Open Data at unido.org

Nonetheless, in general the participants agreed with UNIDO Staff that this improvement in the accessibility for any user from any device have a positive impact in the "time saving" of the information research compared with the "traditional" system through phone calls, e-mails, download of PDF documents etc. On the contrary, some users mentioned that accessibility to the published data does not necessary mean transparency. They said that it is not only about the quantity of information, one gets access to but also about the background which influences this data, such as political decisions. It was observed that there was a decrease in the level of trust of the participants regarding the operations of IGOs such as UN. The participant said that, *"We have now better accessibility, but it does not mean higher transparency"*. This participant further said that, "The quantity has increased but not the quality. I would like to know the political facts in the background which justify or promote the projects in one area or the other". One of the other participants mentioned that*, "If it is an initiative coming from the UN let me be sceptical about it because they have several financial problems and are very politicised."*

4.2.3. The role of technology in the accessibility

Accessibility also has external factors such as the literacy of the users, the level of censorship of the country or the technological environment itself which are separated from the content and structure of the platform and could influence its openness and efficiency. Firstly, technology itself provides the possibility of accessing the platform from different browsers and search engines. A simple monitoring exercise affirms that one can access UNIDO Open Data Platform from most of the internet browsers and search engines. Using the keywords in the broad match form “Projects UNIDO” or “Open Data UNIDO” the platform appears on the first or second results within the browsers results (see figure 24).

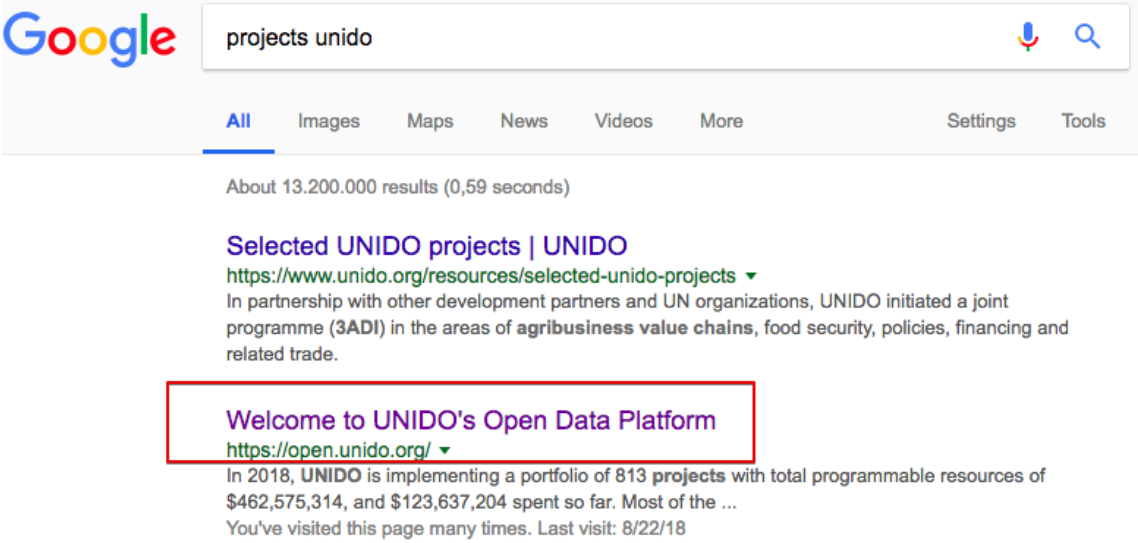


Figure24 Organic search results under "UNIDO projects"

The rest of the technical parameters are not so easy to analyse because there is not much historical data about the Open Data. However, concerning the main website of UNIDO (unido.org) as commented in the sampling, some external tools such as “Page Speed” of Google rated the loading speed as medium in desktop and low in mobile. However, the user-feedback during the User-Experience was 100% positive. All the participants agreed that the loading speed was very good in both domains (unido.org and open.unido.org). Likewise, they were satisfied with the compatibility of the platform in both devices (mobile and desktop).

As a result, the research confirmed that the Search Engine Optimization is correct and it influences in a positive way the accessibility. This result is crucial because 100% of the traffic coming to UNIDO main website comes from organic and the main keyword is “UNIDO” and the main referring site (site which send traffic to UNIDO) is geneve-int.ch 33.28%. Therefore, 65% of the users are searching for UNIDO in a search engine or landing at unido.org after getting a particular search result and 33% were consulting the website of International Geneva and landed afterwards at UNIDO website (see figure 25). The dynamic might change but most of the users were specifically looking for specific info about UNIDO. Some search engines have clear requirements to offer a perfect keyword match and this should be controlled and enriched in order to facilitate to the public an easy and fast access to the information they are looking for.

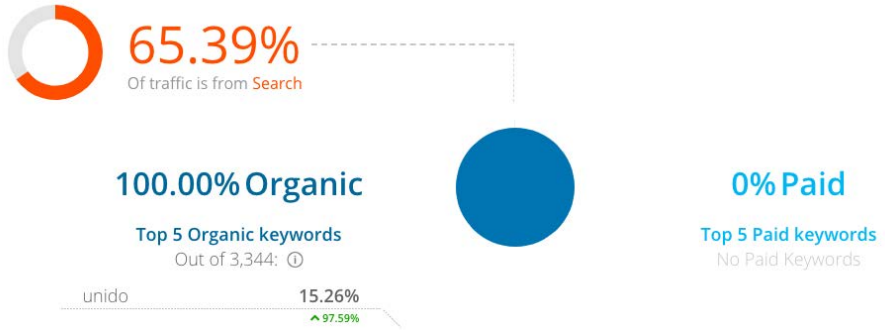


Figure25 Traffic of unido.org in July 2018

4.2.4. Literacy level, internet penetration and internet freedom

The other external factors which influence the accessibility is the literacy level, the internet penetration and the internet freedom. The study cannot really measure the correlation between those parameters and the accessibility because probably an audience without enough literacy or access to internet is not really following the UNIDO projects at a glance. However, there are some inputs which are of interest for the present research. Firstly, Africa has the lower access to internet but in the 12th August 2018 the KPIs regarding the last 6 months audience of unido.org through desktop, show that the Democratic Republic of Congo and Eritrea generated most of the traffic with an increase of 800% in the case of Congo (see figure 26). Secondly, China one of the principal Member States with most internet users worldwide was the world's worst abuser of internet freedom, based in the 2015 Freedom on the Net evaluation. Thus there are several factors that influence the accessibility and by extension transparency apart from the technical performance.

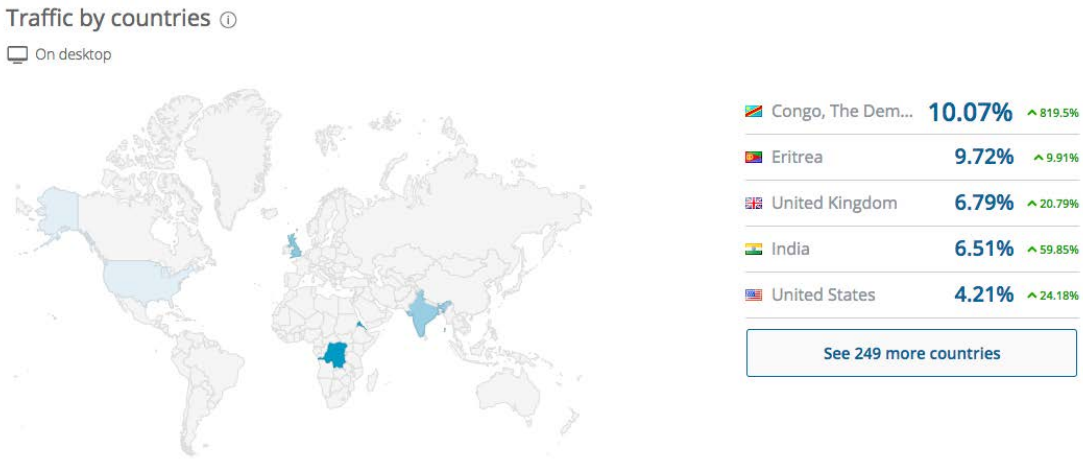


Figure26 Traffic by countries at unido.org to data August 2018

4.2.5. Usability

Talking about usability, from the total of the participants in the User-Experience, 70% rated the platform as very easy to use and 30% as easy to use. Half of the participants had used the platform before, but they admitted that normally they use the platform to accomplish the same tasks. It means that they check a couple

of project in which their countries are involved. For this reason, they do not really know all the possibilities that the platform can offer. Most of the time they work with another tool which is UNIDO's extranet and of course with other internal resources provided by their employers or institutions such as the Organisation for Economic Co-operation and Development. They confirmed that they surf in the Open Data Platform to contrast data they already knew, as explained before, in a sort of "double check". For this goal they rated the platform as easy to use and convenient. The experienced users repeated that they do not use the platform very often so they still need some learning period.

The experienced users commented that they see a clear improvement of the visibility of the platform itself in terms of web design in comparison with the "traditional extranet". Likewise, they rated the platform as very easy or easy to understand. The participants also meant that the technology of UNIDO platform is very powerful to increase the visibility of the data. The users stated that the charts and graphics and the maps with the geographic location make the platform way more attractive and easy to use than the "traditional" methods. During the User-Experience, within the task-based scenario, one of the tasks was to find a particular project with the ID140092: *"Productive work for youth and women through MSMEs promotion in Ethiopia".* Among the users, 83% of them used filters per country and then they click through the different projects in Ethiopia until they found the right one. In this case the project was the third in the menu list. One user commented that if the project is not one of the first ones in the menu, it could be difficult to find it and consequently he discovered the search button icon.

The participant suggested that when the users need to look for a project, the fastest system to use would be the search button where one can look up for a particular project number. However, it was revealed that this feature which could increase a lot the usability is a little bit hidden because only one of the participants used this feature while the rest did not see this option. The icon is very small so the users focused more on the big icons of "Donors", "Country" and "Projects (see figure 27).

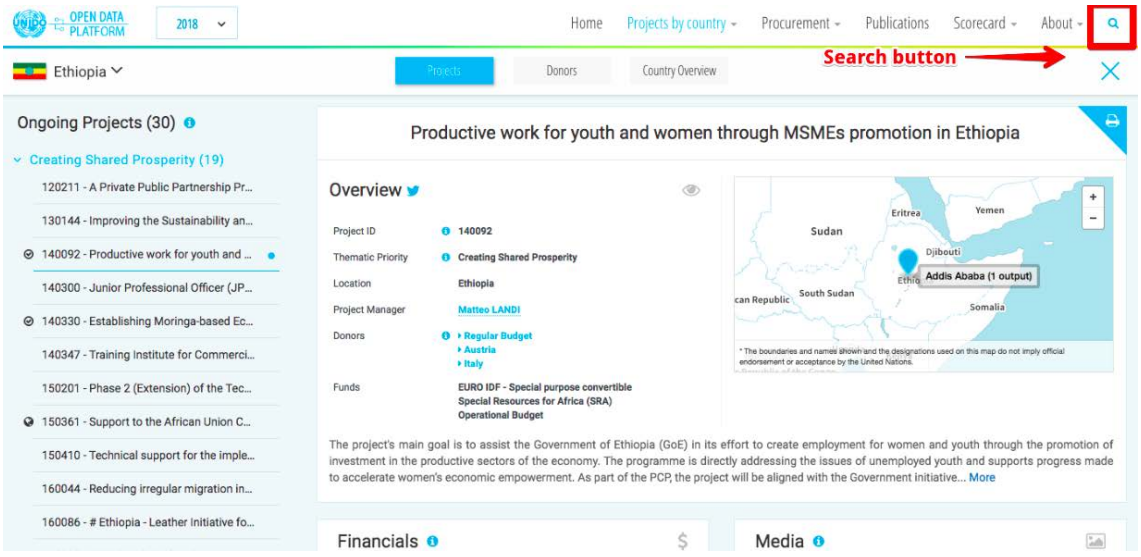


Figure27 Search menu UNIDO Open Data

Conversely, in other websites for example this icon has a different format with higher visibility and the words “Search here” (see figure 28).

Figure28 Search here icon with higher visibility

Another aspect found during the User-Experience was the difficulty faced by the users to understand and use search filters. It was the most complicated phase of the User-Experience until the participants understood that they could filter per target country and projects or per target country and donors (see figure 29). It was observed that it is a good option if the volume of projects and donors is limited or not too big.

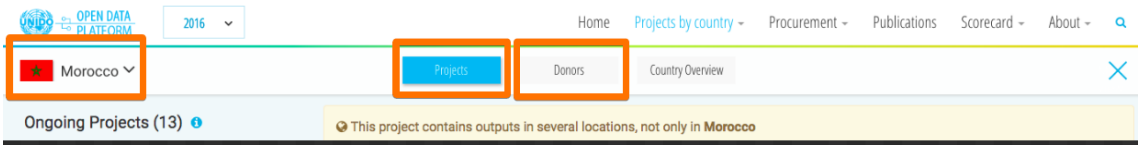


Figure29 Search filters UNIDO Open Data

A good example of high usability in the search phase are the search filters of UNDP (see figure 30) which let the user to set from the beginning the needed filters at once; “Recipient Country”, “Donors” and “project focus”.

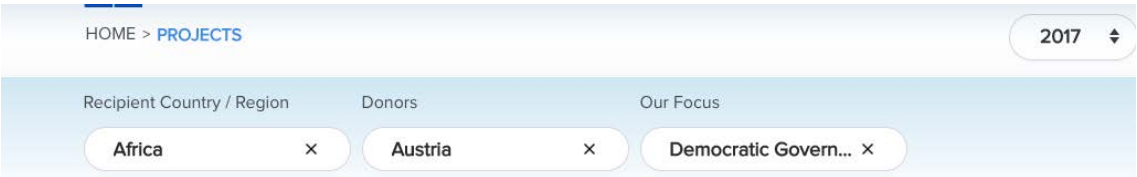


Figure30 Search filters UNDP Open Data

4.3. Interaction improvement through technology

Fung explained the transparency systems as chains of actions and responses between two primary actors: those who could use new information produced by transparency policies and those who are compelled by public policies to provide that information. Consequently, information users and disclosers should be connected in a general Transparency Action Cycle. In the context of the present research it means that an Open Data Platform should represents a change from a unidirectional disclosure of information in UNIDO website into a bidirectional interaction where the users are more engaged and embedded in their transparency initiative.

4.3.1. Discloser’s perception, Open Data start point

UNIDO informed the researcher that they had a close collaboration with the target users during the design of the platform previous to the “go live” in 2015. This activity represented the first interaction between information disclosers and data users within the so called: “Transparency Initiative Liaison Group of Member

States"[30]. Although there is not much information available on-line concerning this meeting/interaction[31] the feedback of UNIDO differs from the feedback of the participants in the UX.
The participants were not aware about this meeting during the design phase. Conversely, UNIDO mentioned that there were an intense collaboration between both collectives.

On the one hand, the participant from UNIDO said that, "*For me when you implement something you explain it to your users as quickly as possible so if you target the audience of Member States and donors and you have got 23 of those in a room… that is what I was doing, no literally, quite detailed asking: this is how is going to look like? Do you like it? Do you think you need to know something about this or not? So when things were rolled out, we were conferencing and in November 2015 first when we went live with the Open Data Platform we already had a lot of constituents on board so.*" On the other hand, the participants of the User-Experience disagreed and mentioned that there are no regular contact for a further improvement of such an initiative: "*They did not ask, they present you the project and decide what transparency means, I did not even know that they were implementing the procurement feature, otherwise I would have asked for this before the rest of the info*". The transparency liaison group took place three years ago so many of the participants in the diplomatic environment could have changed role or work location.

Thus, the research tried to bring similar events or changes in the Open Data Platform in order to track this continuous feedback in the improvement of the platform. For instance, the new platform feature "procurement" was officially communicated during the 17th UNIDO General Conference in December 2017. None of the participants were really aware about this new option although the rated the feature "procurement" as crucial in terms of transparency. Likewise, they mentioned that they should be informed before the update of any new feature in the platform. Consequently, it is unclear if the initial design process were interactive or not. Nevertheless, the participants mentioned that there is a clear room for improvement in continuous engagement of the users in the design of the platform.

4.3.2. User's actions through the social media

The options offered to the users to participate through digital means in the context of the Open Data Platform are mainly some contact forms available in several websites and also the social media under UNIDO's profile or in the private sphere of every user. Once the platform was active in 2015, UNIDO confirmed some strategies to increase the engagement of the users through social media. They informed to the researcher their decision of integrating the social media in every "step" of their institutional communication. For instance, one of the Member States have been tagged in the social media regularly. Those actions normally

[30] "General Conference No. 4 sixteenth sessions". Vienna, 30 November-4 December 2015, retrieved from Unido.org, accessed 20 February 2018.
[31] Websitemessage: https://www.unido.org/events/second-meeting-transparency-initiative-liason-group-member, 20 February 2018.

take place during the launch of specific projects in which a donor is involved. UNIDO informed that the goal is to promote the interaction with the Member States and donors. As an example, the research observed the post of UNIDO in relation with the Union of Arab Chambers which was collaborating in a project with UNIDO Bahrain, that's how they were mentioned in twitter (see figure 31):

Figure31 UNIDO tag in Twitter 9 August 2018

The participants in the User-Experience also agreed in the need of integrating the social media in the Open Data Platform to increase the participation of the users but affirmed that the information can be filtered by the social media itself before being published and mentioned as an example that Facebook does not allow certain contents.

4.3.3. Main social media for UNIDO and user-interactions

The social media activity of UNIDO is developed mostly in the main website unido.org. During the sampling phase the research analysed some important indicators which could offer to the study a clear overview of the activity of the users concerning social media. Comparing the traffic of similar websites such as UNICEF, UNDP and the World Bank the traffic generated by social media comes from Facebook. Similarly, the time that the user spend in the website is in average three minutes. The users of UNIDO website spend in average four minutes and16 seconds which is one minute above the average time invested in other similar webs. UNIDO's social media traffic has also a different performance regarding the social media traffic, most of the users coming from the social media platforms belongs to Twitter (71%) while only 5.61% belongs to Facebook (see figure 32).

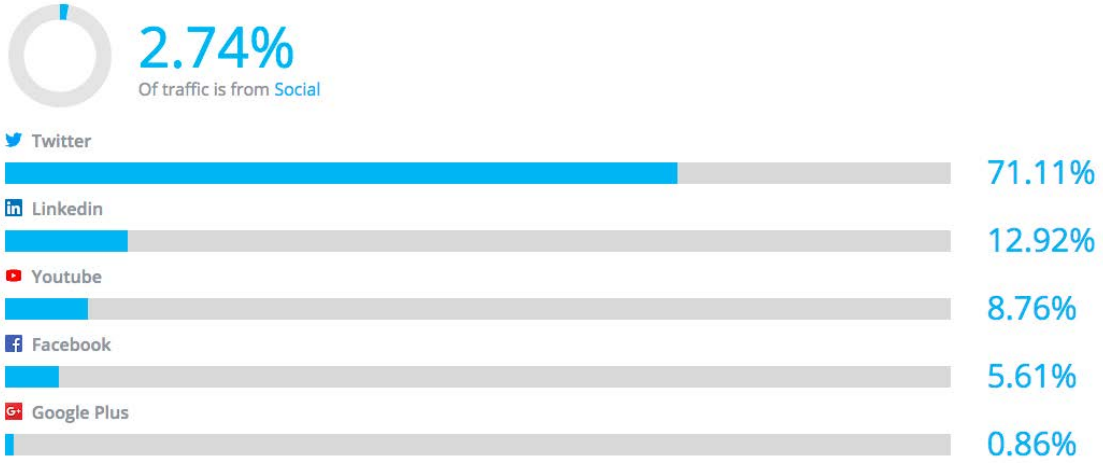


Figure32 UNIDO Social Media traffic. *Source: Similarweb.com*

4.3.4. Contact form, as the feedback of the Open Data Platform

Firstly, during the User-Experience, in the task-based scenario one of the tasks was addressed to interact with the responsible person of the Open Data or to be

more specific the task was to find the contact person in the Open Data and try to arrange a meeting for an interview. Most of the users ended in the contact form and agreed on the fact that it is the only method to make a request in the platform. Nevertheless, the participants which were Member States said that they would rather contact the responsible person on the phone.
They still think that this is the fastest way and have the phone numbers or extensions which can drive them to the right contact person. This feedback contrast with their opinion concerning accessibility. The platform could improve the access to the responsible person and skip the “traditional system” of calling the administration department to ask for information but at the same time the participants prefer to contact per phone so far.

Secondly, UNIDO Staff informed the researcher that they have had several feedbacks through the contact form of the Open Data Platform from different users not only Member States but also academics and researchers, private companies etc. They also mentioned that most of the traffic of the platform was generated by Member States. Those diverse feedbacks cannot be contrasted by the research because in the platform there is not any access to the feedback that the users left behind through the contact form. Upon enquiry, it was found that UNIDO sent a “thank you” to users for their feedback and in some case, there were no responses. However, the process show through a reception confirmation that the request are processed within two days. In any case, there is no information about what UNIDO is doing with these feedbacks delivered through the contact form of the platform and the participants mentioned that this input would be appreciated to increase the transparency in the communication process.

Thirdly, UNIDO also mentioned that they follow parallel strategies in the communication. While the Open Data has its focus on Member States and is limited to the contact form, in the main website, the next steps will be to promote more initiatives about “history-telling” to engage not only Member States but also the rest of stakeholders.

4.3.5. User’s suggestions

The participants of the User-Experience mentioned the usefulness of a Frequently Asked Question (FAQs) exported from the most relevant feedbacks coming from the contact form. It represents just one of the several possibilities of extend the feedbacks of the users and improve the communication process. The users do believe that the information is correctly processed in this contact form pool and they think it would not be productive to address the request to a particular person but always hesitate about the agility in the process which follow to a contact form.

Finally, as another important interaction, all the participants remarked that the learning period of such a platform has a big influence in the correct use and engagement of the users. Hence, they mentioned that a tutorial could help to reduce this learning period and represent at the same time a new interaction within the social media. Some initiatives online were checked and there aren´t

any tutorials but only a video on YouTube[32] informing about the usefulness and available features in the platform which does not represent a valid tutorial as such.

[32] UNIDO Open Data introduction (August, 2015), retrieved from https://www.youtube.com/watch?v=iDWUNp2-aiU, accessed 4 March 2018.

Chapter Five: Discussion and Conclusions

A transparency initiative is a communication process which is not lineal but highly interactive and the findings of every phase complement and are related with the other. Besides, this Open Data Platform still in development so many of the features commented in this research by date 13.09.2018 could change in the next months.

5.1. Identify the actual users

It is clear that the use of technology only produces a dramatic increase in accountability and transparency when it fulfils latent desires or needs which are present in the target community. Needs which were not possible to accomplish before the initiative. There are certain dichotomy identifying the target users and solving their needs. It is still hard to identify the main target user of UNIDO Open Data. UNIDO's Journal says that "all stakeholders" are the target users of the platform, so the selection of an Open Data might be a logical option because every user with internet connection can easily access to the information. Conversely UNIDO Staff stressed that the main users are the Member States and donors. Nonetheless, Member States do not really need this platform or at least do not represent a big change to solve their needs. In other words, there is no clear demand of the target community asking for an Open Data initiative as such or at least not from all stakeholders.

The need of the Member States was to get more transparency about the activity of the institution. However, the needs of the rest of the implied stakeholders are unclear. It is very rare that a tax payer or student end up in this type of platforms. Most of the times individuals using UNIDO's main website unido.org spend four minutes in average and therefore the probability of ending up in the link to the Open Data is quite low. Contrarily, UNIDO itself is a clear target user where the findings provide a correlation with the services or features offered in the data platform. The broader the target public of a technological initiative the harder to identify the user-needs, even more in the complex topic of transparency. Hence it would be very beneficial for the organization to actually identify the target users of such a platform.

5.1.1. Needs about Data quality

The participants raised the question of quality of data provided on these platforms. It can thus be concluded that it is not novel for IGOs to offer new information to the public and with the new digital technologies it is even easier. Nevertheless, there are many ways to present and understand the information published and also different sources to obtain the same information. A donor can get similar data from the ministry of foreign affairs, from the Organisation for Economic Co-operation and Development or can go to the blog of an independent journalist with expertise in development. For this reason, participants mentioned the need of knowing more about the political background. They expressed that there are several gaps between the published information and the daily activity in the project field. The participants informed that projects remain active because they need to spend the budget that they receive. They informed that this is despite the performance of the project.

Besides, the institutional corruption or scandals have huge visibility, so the same technology that helps them to present positive results, can spread their mistakes with an agility without precedents. A clear and recent example can be found in the behaviour of UNICEF. They appeared in the Aid Transparency index in the 4th position rated with 89.5% at the end of 2017 and they have improved their rate in 24% since 2014. It means that looking at the official publication parameters they are "on track". Nevertheless, the guardian explains that UNICEF only admitted to have failed in a protection mission after the information was released to the media by a journalist[33].

Likewise, after checking the structure of IATI Governance, this study finds some correlation between the proactive nature of some institutions within the IATI Governance Structure[34] and the institutions which leader the Aid Transparency index of "publish what you fund"[35]. For instance, Kazi Shofiqul Azam is a member of IATI governing board and alternate Governor of World Bank Group and Asian Development Bank. In 2018, the Asian development bank is the number one in the ranking and the World Bank international development association is the number six. Timothy Takona leads UNICEF's initiative to increase public transparency and accountability and UNICEF appears in number nine in 2018 and number three in 2016. The consortium chosen to host the global transparency initiative is led by United Nations Development Programme (UNDP) and including the United Nations Office for Project Services (UNOPS), the Governments of Ghana and Sweden, and a UK-based NGO Development Initiatives and UNDP is ranked number two in 2018.

Thus, socio-political background has a big influence in the whole communication process and explains many of the user-needs and reactions. During the last 20 years there is a clear lack of trust in many institutions. There are several external factors which represent a big challenge for the institutions and also for the Member States. Hence, it would be useful to revisit the decision on why information about "Projects and Future Roadmap" was mentioned in the Open Data Platform. One can only assume at this point that this could have been motivated by a significant change in international development. This change was the need or willingness of increasing the effectiveness and showing specific KPIs or quantifying the impact generated by an IGO on the one hand. On the other hand, the budget available for every donor has been drastically cut down in the last years. This might indicate that the donors and Member States need to plan on where to invest less funds however trying to maintain the effectiveness of the programme.

Consequently, Member States and donors have less room for mistakes in the medium/long run. For this reason, they need as much information about the projects as possible to diversify better a limited budget and also to understand the impact of the projects funded by them and future perspectives.

---

[33] Unicef admits failings with child victims of alleged sex abuse by peacekeepers, retrieved from https://www.theguardian.coms, accessed 13 February 2018.

[34] IATI governance 2018, retrieved from https://www.aidtransparency.net/governance/governing-board, accessed 15 September 2018

[35] Aid transparency index 2018 retrieved from http://www.publishwhatyoufund.org/the-index/ accessed 15 September 2018,

It fits with the feedback of UNIDO which mentioned that the demands for more transparency affects not only UNIDO but also more agencies of the UN because donors may reduce investment in current projects. Likewise, they can remove funds from one agency to another or even develop a project on their own.

The quality that an IGO offers within the general statistics is to an extent more neutral but the information at the project level changes a lot depending on the perception of the users and disclosers. In this case technology by itself offers transparency but data can be presented from different perspectives. The best example is the quality score elaborated by UNIDO (1-10) with ten parameters which are quoted with the same level of relevance. It is clear that one needs a quantitative parameter to track the quality of a project but if a project has no "project document" or no "project description" there is not logic for the users to get rated with nine or ten points out of ten.

Furthermore, UNIDO remarked that the improvement of giving access to the projects to users who could not get access before. One questions that if there were no privacy barriers in the past, why were the Project Documents not published. Likewise, the limitation in the publication of projects because of "legal privileges" or "internal governance matters" are unclear as providing contents is one of the parameters for maintaining transparency. Besides UNIDO's commitment to quality and best practices are without any doubt very efficient but as we mentioned above within the quality score (1-10) it may not fit with the user's demands.

One of the main needs was the quality of information concerning the "procurement". It is indeed related with transparency but also with return of investment. Some participants during the User-Experience checked the projects they funded and commented that the Open Data Platform is very positive for the suppliers who want to offer their products and services to the project manager of UNIDO. There is a clear protocol with strict rules to become supplier of the UN, however the stress of the users in this point probed to this study that there is a lot of room for improvement in the transparency. In the case of UNIDO the procurements feature is even more important. This is because apart from fighting the poverty and inequality they generate a big impact on the local economy by developing new industries that could be managed by private entities but were funded with public money. In the Open Data Platform of UNIDO the procurement feature just gives general numbers but does not descend to the project level. This represent a nice view but is useless if a user needs specific information about particular vendor on a particular date. It is more a feature to use in the corporative communication than a feature of quality to use in a particular context by a user.

5.1.2. Need of easy use and participation

As in any digital initiative the evolution towards the easy use is evident. The findings highlighted that mapping technology and the search filters have facilitated the use of the platform already. However, there is still a difference between the use of some simple features and getting the full potential of the platform. For this reason, the learning period is very important. The web designers and User-Experience experts work through neuromarketing techniques to shift experience of the user from easy use into an intuitive use.

There are great improvements in the private initiatives concerning the user's on-boarding such as up-front tutorials or interactive user-guided tours. Nonetheless, those features are not so advanced in institutional websites because they do not work based on traffic generation or "conversions". A "conversion" can be understood as a clear user's action such as fulfilling a form downloading a PDF, producing a referral to a particular website. One can perceive a parallelism between the evolution of the international development environment and the evolution of the communication process of the implied IGOs.

At the beginning the institutions were just working on projects and now they have to reach specific KPIs and inform the public about their productivity with quantitative parameters. The same evolution should be applied to their digital behaviour. If an IGO develop or invest time and resources in an Open Data Platform, the goal should not be to appear in the ranking of publish what you fund by making a similar version of UNDP Open Data. A new platform should have clear goals and focus on the target users and integrate them as much as possible in the communication process. Monitoring of these goals is also crucial otherwise, there is a risk of producing a death site which is only used by the employees. The findings also highlights that the users are very concerned about the visibility. In some cases they believe that showing their logo in the website or project is also a way of participating in the communication. This also represent a challenge for the institutions because the engagement of the Member States should not be limited just to the visibility or to the demand for transparency. They should also show their commitment to actively provide continuous and productive feedback about the data and features. It is not only about an official general meeting and launch of the Platform it is about a complete action cycle to get more transparency in every step of the initiative.

5.1.3. UNIDO needs

The findings confirm that UNIDO is both the "information discloser" and "data user" in this initiative. Hence, they affirm their need of informing the public about their contribution to reduce inequality and poverty through such an Open Data Platform. This technology helps them to communicate this information in a more effective way and was generated not only as a response to the demand of transparency of the Member States but also to the fact that there is a clear reduction on the available budget for international aid. Lacking such transparency, the organization risks that their funds may be shifted from their projects to another IGO if the transparency and performance of the respective organizations do not satisfy the donors. Moreover, this need is also a consequence of the lack of trust in the IGOs and the opaque socio-political background in international development. There were also clear agreements concerning transparency standards which should be working by 2015. In short, UNIDO and any other UN institution need to gain visibility, relevance and trust from all implied stakeholders following the transparency roadmap agreed with IATI. Thus, an Open Data Platform can clearly help them to accomplish these goals or at least represent an important asset in their communication strategy.

5.1.4. Recommendations:

This discussion drives the present study to make the following recommendations to improve the impact of the Open Data Platform to increase transparency:

- Re-define the target users: It is clear that this initiative is not interesting for all stakeholders, therefore the universe of potential users should be re-defined to gain effectiveness.
- Re-define the needs: Once the target users are defined a deeper study of their needs should be found. If the users have access to information, this cannot be defined or justified as a need.
- UN specific nuances have to be explained to the general public: When the target users are not familiar with international development it is important to explain the "nuances" such as a delay between the beginning of the project and publication of the project document.
- Define clear goals such as traffic increase and "conversions": It is important to quantify the impact or goal expected with the launch of a technological initiative. In the digital environment every action can be tracked. If the expected engagement is not monitored the initiative loses its potential to improve.
- Improve the quality score with valid parameters: The quality score cannot be defined just with a list of 10 parameters if those parameters have a different relevance for the users. For instance, the parameter "Project document uploaded" represents the key feature to get detailed information about the project. Likewise, it is important to explain which project were not uploaded because of privacy reasons, "legal privilege" and "internal government matters" or any other reasons.
- Procurements at project level: Now the platform only offer general statistics about the procurements while the users ask for this information and a more detail format and at the project level.

5.2. Accessibility, usability and convenience of UNIDO Open Data regarding transparency

Once again the right definition of the target users is crucial because no user would say that this platform is a bad idea instead of a "nice to have". The debate regarding convenience here is not addressed under the question if one 'likes' the Platform. The debate is focused on other factors such as if the public need such a Platform. Also, one needs to ask if this platform makes a difference in the daily work of the Member States. Likewise, one tries to figure out if the users trust the information if there are scandals published in the media about some IGOs. During the last 20 years we have been struggling with this paradox where an institution presents brilliant results while the civil society disagree. For example, the World Bank present and sponsors project in the Brazilian Amazonas while rubber tappers mobilized against it. Similarly, the participants expressed the usefulness of the platform to "complement" or double-check information but it does not represent a big change in the transparency level. This feedback seems even more logic after the confirmation of UNIDO concerning their need of improving the data quality as explained in previous sections.

Conversely, once again UNIDO represents the principal user and for them this initiative is more convenient than for any other user and embody a new tool to administrate information about their activities.

Concerning the accessibility, this study can affirm that if one considers the general public as the main target user this Open Data represents the biggest achievement in the improvement of the accessibility. Contrarily, it does not offer such a huge improvement for the Member States but it represents a qualitative improvement in the visibility and easy use. The problem is that transparency is an extremely complex concept and therefore, offering higher accessibility to the published information “per se” does not necessary mean achieving higher effectiveness or transparency. The accessibility should be accomplished with data but not limited to UNIDO’s commitment to quality and best practices but also to a higher level of accountability. If an institution does not have to face consequences after failing in whatever part of the Transparency Action Cycle the level of trust decrease automatically and by extension the level of transparency as well. It is clear that in most of the cases an international agreement does not have the same validity than a national law but the immunity represent an important gap in this process. Moreover, the technical capacity of the platform may offer a great accessibility from every device and browser but every State control the internet infrastructure and education policy as well as the censorship. It means that again the technology facilitates the access but it cannot get rid of the socio-political environment and existing infrastructure. However, new technologies such as the “blockchain” may also challenge those limits.

The usability has clearly improved with the Open Data. The easy use depends on the know-how of the users. To offer valid conclusions this topic should be analysed in the long-term with a large sample to evaluate if the platform succeeded to engage many users who are not directly related to UNIDO and monitor if they understood the information. This study only has inputs from experts in international development and they all confirmed that the information displayed in the platform is easy to understand. The users have a more visual dashboard with advance filters a clear map and location inputs and some statistics and graphics available. This parameter is of course linked to the concept of usefulness or convenience.

For UNIDO is very useful to show general statistics about how many projects have been developed and for the users now is easy to use the platform and get this overview but it would be more useful for them, if instead of general statistics the platform would offer more detailed information about the vendors of a project or an up to date progress report. In any case, this study can confirm that for the users working in international development the usability was good but there is still room for improvement.

5.2.1. Recommendations

The study identified a range of feedback from the participants. The following recommendations are based on the User-Experience as part of the research findings:

- Interactive guided tour or tutorial: The usability increase if the users know all the features of the platform. Hence, out of information icons which are very useful a short tutorial or an interactive guided tour will help to reduce the learning period of the use in the Open Data Platform.
- Better identification of the link of the Open Data: As discussed before, most of the users did not landed directly into the Open Data Platform. They check the main website of UNIDO and afterwards click in the icon “learn more about UNIDO projects”. This icon should have been more visible and should not be in the footer of the website. If the user has to scroll three times to find it, it could affect a good User-Experience.
- Highlight the “search button”: The icon of the search button is almost hidden and is a crucial feature to start a research in the platform. This study recommends to give to this icon more visibility and highlight it with a complementary text “Search here”.
- Add a new search filter: In UNIDO Open Data the main filters are “projects” and “donors” and the filter of recipient country confuse the users because it has a different format. This research recommends to offer three clear search filters as it appears in the UNDP Open Data with “Recipient Country”, “Donors” and “Our focus”. It is a more efficient search and the user reduce a broad universe into a few projects.

5.3. Interaction improvement through technology

In an ideal “Transparency Action Cycle” a continuous feedback and interaction between Information Discloser and Data User is needed. However, in order to leave a feedback, the users have to be motivated to use the information displayed by the discloser. Similarly, the probability of using the information of the platform increase exponentially if the users need it. During the research, all the participants meant that they had the same information before and they do not use the platform very often. For this reason, the probability of leaving a feedback or have an interaction through the Open Data is not that high.

The research reviewed several Open Data Platforms from international development field. In most of these platforms the contact form or a link to the contact form of the official website is the most common solution to leave a feedback. Nevertheless, the Member States explained that they prefer to contact the responsible person per phone or through the personal e-mail that they have available in the extranet. Thus, this can be interpreted as a lack of interest of the users in using this new technology or an inefficiency of the contact form which last more to get a proper response than a simple call. A third option is that the contact form is a feature addressed to the general public while the phone calls or direct e-mail remain the normal feedback system for the Member States.

Concerning the contact form of UNIDO they do not offer information about how they process these feedbacks. It is a very useful information that could be shown, maybe with an anonymous format but in any case keeping it in a black box can just produce less transparency. The “best case scenario” would be to integrate some features through which, the users can track their requests and suggestions with higher transparency and UNIDO can better integrate the users feedback in the future improvement of the platform.

The other main channel for interaction are social media which are not exclusive of the Open Data but are normally linked to the official website. UNIDO is very active in the social media and tag the implied stakeholders regularly. Social media represent in any case a good channel to engage the users. Nonetheless, these systems of interactions might not be 100% compatible with some of the main donors of the UN agencies because they display a very low level of internet freedom and many of the Member States have arrested activists who use social media to express political opinions. Hence, there is a visible inconsistency between the initiative design and the socio-political background. A simple example is a post available in the section “findings” where UNIDO tags Bahrain in Twitter regarding some projects to tackle unemployment while Human Rights Watch, a known human rights organization reports several irregularities in Bahrain concerning freedom of expression and other human rights (“HRW”, 2018).

5.3.1. Recommendations

There is a scope for improvement in interaction through technology. Some of the recommendations based on the findings are as follows:

- Frequently Asked Questions (FAQ) feature: It is a common approach in many websites and can save time to the users who might find a quick answer to their doubts without waiting for the response process of the contact form.
- Introduce an “idea management system”: It is also a common approach in many communication projects or website development. It is a structured system to capture evaluation or ideas submitted by the users and employees in one place. It is a given that there are certain aspects which are confidential and hence will not be visible to the public but it would certainly help if there is an increase in the traceability of the user’s feedback. This tool can be easily linked with the goals of the transparency initiative and identifications of the personas.
- Increase accountability: It is hard to guarantee accountability in the actual legal system from an IGO but there are simple systems to monitor the satisfaction level of the users.

5.4. Conclusion

Technology can influence the success of a transparency initiative by improving three specific dimensions:

The first dimension is to accomplish the latent needs of the target public or community regarding transparency: In the case study of UNIDO Open Data Platform, the target users’ profile should be re-defined because currently only the needs of UNIDO are fully satisfied through this technology, while the rest of potential users do not perceive this platform as a big improvement in transparency. This situation is embedded in a concrete socio-political environment where all UN agencies need to fulfil the IATI requirements and show to the world their contribution in international development. At the same time the Member States and donors ask for higher data quality and evaluate if they

maintain collaborations with the same agencies or change their approach to their strategy regarding international aid and save costs by developing their own projects.

The second dimension is to improve accessibility, easy use and convenience of the needed information. The convenience of the displayed information will be different depending on the users and the usefulness they can perceive. When the quality of the information is good and delivered in a format which is easy to understand the convenience will rise. The same logic applies here as in the first dimension. The convenience is clear for UNIDO while the rest of the users perceive the platform as a “nice to have”. Conversely, the usability and accessibility increase a lot with the technology in an Open Data Platform. Nevertheless, in this case the accessibility only increase for the general public and not for UNIDO or the Member States. Similarly, the accessibility does not generate by itself higher transparency without accountability and interaction of information disclosers and users in the Transparency Action Cycle.

This cycle opens a link to the impact of the technology with the third dimension which is the promotion of interaction and participations between the implied stakeholders. Technology offers great resources to facilitate the feedback of the users in a digital transparency initiative but the user should be motivated to use the information published to generate a feedback. Nonetheless, the lack of trust in some institutions and some dichotomies of the socio-political background such as collaboration of Member States which violate the human rights or lack of accountability in some humanitarian crises can represent a big handicap in the credibility of the information published.

The impact of technology in transparency in international development is very positive and has a huge potential but still limited by external factors of the socio-political environment. It is hard to make a prediction about the future of transparency supported by technology in international development. However, this communication asymmetry between institutions and civil society may remain unless there are a more conscious societies and organizations which aims for a transparent and accountable system.

Bibliography

Adlin, T., & Pruitt, J. (2010). *The essential persona lifecycle: Your guide to building and using personas.* Morgan Kaufmann.

Alford, J. (2002). *Defining the client in the public sector: A social-exchange perspective*. Public administration review, 62(3), 337-346.

Alt, J. E. (2002). *Credibility, transparency, and institutions: an exploration and an example.* Instituto Juan March de Estudios e Investigaciones.

Avila, R., Feigenblatt, H., Heacock, R., & Heller, N. (2010). *Global mapping of technology for transparency and accountability*. London: Open Society Foundation.

Armstrong, E. (2005). *Integrity, transparency and accountability in public administration: Recent trends, regional and international developments and emerging issues Economic & Social Affairs* (pp. 1-14). New York: United Nations.

Banisar, D. (2006). *Freedom of information around the world 2006*: A global survey of access to government information laws.

Beel, J., Gipp, B., & Wilde, E. (2009). *Academic Search Engine Optimization (aseo) Optimizing Scholarly Literature for Google Scholar & Co*. Journal of scholarly publishing, 41(2), 176-190.

Bertot, J. C., Jaeger, Paul T.; Munson, Sean; Glaisyer, Tom (2010). *Social media technology and government transparency*. In *Computer* 43 (11), pp. 53–59.

Biernacki, P., & Waldorf, D. (1981). *Snowball sampling: Problems and techniques of chain referral sampling.* Sociological methods & research, 10(2), 141-163.

Brabham, D. C. (2010). *Moving the crowd at Threadless: Motivations for participation in a crowdsourcing application*. In Information, Communication & Society 13 (8), pp. 1122–1145.

Brito, J. (2008). *Hack, mash, & peer: Crowdsourcing government transparency*. In The Columbia Science and Technology Law Review 9, pp. 119–157.

Bryman, A. (2012). *Social research methods*. Oxford University Press Inc*. New York.*

Buchanan, A., & Keohane, R. O. (2006). *The legitimacy of global governance institutions.* Ethics & international affairs, 20(4), 405-437.

Burger, R., & Owens, T. (2010). *Promoting transparency in the NGO sector: Examining the availability and reliability of self-reported data*. World development, 38(9), 1263-1277.

Burns, R. (2015). *Rethinking big data in digital humanitarianism: Practices, epistemologies, and social relations.* GeoJournal, 80(4), 477-490.

Byarugaba Agaba, G., Akindès, F., Bengtsson, L., Cowls, J., Indira Ganesh, M., Hoffman, N. & Meyer (2014). *Big data and positive social change in the developing world*: A white paper for practitioners and researchers.

Cabral, L., Russo, G., & Weinstock, J. (2014). *Brazil and the Shifting Consensus on Development Co-operation: Salutary Diversions from the 'Aid-effectiveness' Trail?* Development Policy Review, 32(2), 179-202.

Carter, L., & Bélanger, F. (2005). *The utilization of e-government services: citizen trust, innovation and acceptance factors*. Information systems journal, 15(1), 5-25.

Clarke, K. C., (1986). *Advances in geographic information systems*. Computers, environment and urban systems, Vol. 10, pp. 175–184.

Cooper, T. L. (2012). *The responsible administrator: An approach to ethics for* the *administrative role*. John Wiley & Sons.

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). *Crowd-sourcing transparency: ICTs, social media, and government transparency initiatives. In Proceedings of the 11th Annual International Digital Government Research Conference on Public Administration Online: Challenges and Opportunities* (pp. 51-58). Digital Government Society of North America.

Duffield, M. (2002). *Social reconstruction and the radicalization of development: aid as a relation of global liberal governance*. Development and change, 33(5), 1049-1071.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). *Comparison of convenience sampling and purposive sampling*. American Journal of Theoretical and Applied Statistics, 5(1), 1-4.

Estellés-Arolas, E., & González-Ladrón-De-Guevara, F. (2012). Towards *an integrated crowdsourcing definition*. Journal of Information science, 38(2), 189-200.

Faulkner, L. (2003). *Beyond the five-user assumption: Benefits of increased sample sizes in usability testing.* Behavior Research Methods, Instruments, & Computers, 35(3), 379-383.

Finell, B. I., & Lord, K.M. (1999). *The surprising logic of transparency*. *International Studies Quarterly, 43*(2), 325-339.

Fox, J. (2007). The uncertain relationship between transparency and accountability. *Development in practice, 17*(4-5), 663-671.

Fung, A., Graham, M., Weil, D., & Fagotto, E. (2004). The Political Economy of Transparency: What makes disclosure policies effective?.

Gigler, B.S. and Bailur S. (2014). *Closing the feedback loop: Can technology bridge the accountability gap?.* The World Bank.

***Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013*)**.** Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. Organizational research methods, 16(1), 15-31.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). *Toward a conceptual framework for mixed-method evaluation designs*. Educational evaluation and policy analysis, 11(3), 255-274.

Grigorescu, A. (2007). *Transparency of intergovernmental organizations: The roles of member states, international bureaucracies and nongovernmental organizations.* International Studies Quarterly, 51(3), 625-648.

Groves, L., & Hinton, R. (2013). *Inclusive aid: Changing power and relationships in international development*. Routledge.

Holtzblatt, K., & Jones, S. (1993). *Contextual inquiry: A participatory technique for system design.* Participatory design: Principles and practices, 177-210.

Howard, P. N., Duffy, A., Freelon, D., Hussain, M. M., Mari, W., & Maziad, M. (2011). *Opening closed regimes: what was the role of social media during the Arab Spring?*

Jenkinson, A. (1994). *Beyond segmentation*. Journal of targeting, measurement and analysis for marketing, 3(1), 60-72.

Jervis, R. (1989). *The logic of images in international relations*. Columbia University Press.

Kahler, M. (2004). *Defining accountability up: The global economic multilaterals.* Government and Opposition, 39(2), 132-158.

Kitchin, R. (2014). *The data revolution: Big data, open data, data infrastructures and their consequences*. Sage.

Klingebiel, S. (2012). *Results-Based Aid (RBA): New aid approaches, limitations and the application to promote good governance*. Deutsches Institut für Entwicklungspolitik

Kosack, S., & Fung, A. (2014). *Does transparency improve governance?.* Annual Review of Political Science, 17, 65-87.

Kothari, U. (2005). *Authority and expertise: The professionalisation of international development and the ordering of dissent*. Antipode, 37(3), 425-446.

Kovach, H., Neligan, C., & Burall, S. (2003). *Power without accountability?* (p. *15*). London: One World Trust.

Latouche, S. (1993). *In the wake of the affluent society: An exploration of post-development*. Zed Books.

Lawrence, P. G., & Nezhad, S. (2009)*. Accountability, transparency, and government co-option: A case study of four NGOs*. International NGO Journal, 4(3), 076-083.

Lindstedt, C., & Naurin, D. (2010). *Transparency is not enough: Making transparency effective in reducing corruption*. International political science review, 31(3), 301-322.

Luck, E. C. (2003). *Reforming the United Nations: Lessons from a history in progress*. New Haven, CT: Academic Council on the United Nations System.

Melody, W. H., Mansell, R. E., & Richards, B. J. (1986). *Information and communication technologies: social science research and training: a report by the ESRC programme on information and communication technologies*. Economic and Social Research Council.

Meron, T. (1976). *Staff of the United Nations secretariat: Problems and directions.* American Journal of International Law, 70(4), 659-693.

Michener, G., & Bersch, K. (2013). *Identifying transparency*. Information Polity, 18(3), 233-242.

Mitchell, R. B. (1998). *Sources of transparency: information systems in international regimes.* International Studies Quarterly, 42(1), 109-130.

Moser, C. (2013). *User experience design. In User experience design* (pp. 1-22). Springer, Berlin, Heidelberg.

Nielsen, J., Clemmensen, T., & Yssing, C. (2002). *Getting access to what goes on in people's heads?: reflections on the think-aloud technique*. In Proceedings of the second Nordic conference on Human-computer interaction (pp. 101-110). ACM.

Pachinger, F., Sheikh, Z., Zajaczkowski, P., Rogge-Solti, A., Schonig, S., & Mendling, J. (2016). *Comparison of Visualization Concepts of Map Layouts. In Enterprise Distributed Object Computing Workshop (EDOCW),* 2016 IEEE 20th International (pp. 1-5). IEEE.

Pallot, M., Trousse, B., Senach, B., & Scapin, D. (2010). *Living lab research landscape: From user centred design and user experience towards user cocreation.* In First European Summer School" Living Labs".

Patton, M. Q. (2005). *Qualitative research*. Encyclopedia of statistics in behavioral science.

Pruitt, J., & Adlin, T. (2010). *The persona lifecycle: keeping people in mind throughout product design*. Elsevier.

Raven, M. E., & Flanders, A. (1996). *Using contextual inquiry to learn about your audiences.* Asterisk Journal of Computer Documentation, 20(1), 1-13.

Reinisch, A. (2014). *To What Extent Can and Should National Courts 'Fill the Accountability Gap'?.* International organizations law review, 10(2), 572-587.

Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013). *Qualitative research practice: A guide for social science students and researchers.* sage.

Rodríguez, M. D. M., Pérez, M. D. C., & Godoy, M. L. (2012). *Determining factors in online transparency of NGOs: A Spanish case study*. VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations, 23(3), 661-683.

Rojas, F. M. (2012). *Transit transparency: Effective disclosure through open data.* Ash Center for Democratic Governance and Innovation.

Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. Sage.

Schnackenberg, A.K. and Tomlinson, E.C., (2016)*. Organizational transparency: A new perspective on managing trust in organization-stakeholder relationships.* Journal of Management, 42(7), pp.1784-1810.

***Scholte, J. A. (2004*)**. Civil society and democratically accountable global governance. *Government and opposition*, *39*(2), 211-233.

Silverman, D. (2006). Interpreting qualitative research. *Methods for Analysing Talk, Text and Interaction*.

De Stefano, L., Hernández Mora, N., López Gunn, E., Willarts, B., Zorrilla, P., & Llamas, M. R. (2011). *Transparencia en la gestión del agua en España: Fortalezas y debilidades.* Fundación Botín, Santander*, 22-35.*

Tandon, Y. (2009). *Aid without dependence: An alternative conceptual model for development cooperation*. Development, 52(3), 356-362.

Tesch, R. (2013). *Qualitative research: Analysis types and software*. Routledge.

Tierney, M. J., Nielson, D. L., Hawkins, D. G., Roberts, J. T., Findley, M. G., Powers, R. M., & Hicks, R. L. (2011). *More dollars than sense: refining our knowledge of development finance using Aid Data*. World Development, 39(11), 1891-1906.

Vaccaro, A., & Madsen, P. (2009). *ICT and an NGO: Difficulties in attempting to be extremely transparent.* Ethics and Information Technology, 11(3), 221-231.

Van Dijck, J. & T. Poell. (2013)*. Understanding Social Media Logic.* Media and Communication 1 (1): 2-14.

Whiting, L. S. (2008). *Semi-structured interviews: guidance for novice researchers*. Nursing Standard, 22(23).

Zainal, Z. (2007). *Case study as a research method*. Kemanusiaan.

Websites

Why transparency matters? (n.d.). Publish what you fund. Retrieved from http://www.publishwhatyoufund.org/. Accessed 2 February 2016.

Fourth High Level Forum on Aid Effectiveness (29 November 2011). Retrieved from http://www.oecd.org/. Accessed 1 February 2016.

Definition of Intergovernmental Organization (n.d.). Harvard Law School. Retrieved from https://hls.harvard.edu. Accessed 2 January 2017.

Transforming our world: the 2030 Agenda for Sustainable Development (n.d.). Retrieved from https://sustainabledevelopment.un.org/post2015/. Accessed 3 March 2017.

Development result- based approach (n.d.). OECD. retrieved from http://www.oecd.org/dac/results-development/results-based-approaches/. Accessed 23 April 2016.

What is the data revolution? (n.d.). Data Revolution Group. retrieved from http://www.undatarevolution.org/data-revolution/. Accessed 10 February 2018.

Towards an international Open Data Charter(n.d.). Open Data Charter: retrieved from http://opendatacharter.net/history/. Accessed 10 February 2018.

High-Level Panel of eminent persons on the Post-2015 Development Agenda (2013). Retrieved from https://www.un.org/sg/en/management/beyond2015.shtml. Accessed 21 December 2017.

Europe´s public data (n.d.). European data portal. Retrieved from http://data.europa.eu/euodp/en/data/. Accessed 18 January 2018.

Paris declaration on Aid Effectiveness (2003). OECD legal instruments. Retrieved from https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-5017. Accessed 18 January 2018.

IATI Governance: Secretariat (2013). International Aid Transparency Initiative. Retrieved from https://www.aidtransparency.net/governance/. Accessed 20 September 2018.

The Open Data Barometer (2016). Open Data Barometer. Retrieved from https://opendatabarometer.org/leadersedition/methodology/. Accessed 3 September 2018.

Bahrain (2018). Human Rights Watch report. Retrieved from https://www.hrw.org/middle-east/n-africa/bahrain. Accessed 15 September 2018.

Hilbert, M., & López, P. (2011). *The World´s Technological Capacity to Store, Communicate and Compute Informantion*. Science. Retrieved from http://www.martinhilbert.net/WroldInfoCapacity. Accessed 13 February 2018.

Anderson, C. (2008). *The end of theory: The data deluge makes the scientific method obsolete.* Wired Magazine, 16(7). Retrieved from http://www.wired.com/science/discoveries/magazine/16-07/pb_theory. Accessed 20 February 2017.

Peixoto, T., & Fox, J. (2016). *When does ICT-enabled citizen voice lead to government responsiveness?.* Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/23650/WDR16-BP-When-Does-ICT-Enabled-Citizen-Voice-Peixoto-Fox.pdf. Accessed 20 February 2017.

Fung, A., Gilman, H. R., & Shkabatur, J. (2010). *Impact case studies from middle income and developing countries.* London, UK: Transparency and Accountability Initiative. Retrieved from http://www.transparency-initiative.org/wp-content/uploads/2017/03/impact_case_studies_final1.pdf. Accessed 21 December 2017.

Appendix I: Interview Institutional Open Data Platform responsible

General Understanding

1. Why did UNIDO decide to develop this Platform? Why now?
2. What is the goal to achieve/problem to solve with this platform? (Based on the review literature a technological Initiative is developed to solve a problem.
3. Why did you decided to use this tool/technology. Which where the other options you have checked for the technology of this initiative?
4. Which were the biggest achievements/Challenges of the platform within this first 2 years of activity?
5. Could you give some general insights about UNIDO's policy regarding Transparency? (E.g. I have read on your platform: "The Organization recognizes that there is a positive correlation between transparency, including information sharing, and public trust in UNID's activities".

Users profile and Needs

6. Who are the implied stakeholders\potential users? How were they implied in the design and development of the platform?
7. From your point of view, which are the needs and wishes of the potential users regarding Transparency?
8. Why do you think that the users will be motivated to use this platform? (Which capacity do stakeholders have to receive and be engaged by your information and then act?)
9. Which actions does the platform facilitate that and impossible before this initiative?
10. Are there disaggregated data to measure the outcomes and impacts of the projects at the local level? Including measuring success through feedback from the communities that aid is intended to help?

Interactions Information Discloser/ Target Users and Usability

11. How are you going to close the gap between developed and developing countries on open data availability and use? (Not only to get the ball rolling but also helping developing countries to overcome long-standing barriers of low connectivity, poor data management infrastructure, weak legal foundation, and scarce skills that limit open data achieving scale in the developing world)
12. Could you briefly describe the process to organize the information in the platform? How is decided the format timing and priority of information disclosure?
13. Do you offer Feedback mechanisms to the Users? How? (Dynamic of two-ways exchange, technology web 2.0/ Crowd sourcing…)
14. How is the Users Feedback so far? Do you monitor it and make changes

based on it?

15. Which is the long-term strategy? (It's very rare that transparency groups simply start using technology and quickly succeed in raising levels of accountability. Most organizations only succeed once they start using technology to support specific aims and tactics that are part of a larger strategic framework

Accessibility and Accountability

16. How reliable is the information you offer in your platform? Where did you get this information? One can contrast it with other sources? (traceability)

17. Is there evaluative information (results about the projects)/ independent evaluation? Also at sub national level?

18. Are you sharing the lessons to be learnt with the Aid Community? How?

19. If UNIDO make a mistake in the platform which is the protocol to correct it and communicate it to the users? Is there any responsible person and his contact on the platform?

20. Citing Grigorescu: "a truly transparent IO is one that allows the public to know how to *access information about its work, how it spends its resources, who works in it, and how its staff is selected"* (Grigorescu 2007 p.643). Where can I find information concerning the costs of UNIDO Open Data Platform

Appendix II: Users-needs Online Survey

Open Data Platform users 'needs

The Goal of this form is to list the most important Needs of the target users of an Open Data Platform which publish Information about International aid development.
Taking the Platform open.unido.org as a reference, Could you surf in this platform and check the main Features? After that please answer the following questions.

1. What is your main enrolment in International Aid?
International Aid, also known as international aid, overseas aid, foreign aid or foreign assistance is from the perspective of governments a voluntary transfer of resources from one country to another.

- o Aid Recipient
- o Independent Aid Consultant
- o Intergovernmental institution
- o Student
- o NGO employee
- o Tax-Payer
- o Academic or Researcher in Development field
- o Journalist
- o Multilateral Institution (United Nations, Austrian Development Agency etc.)
- o Government employee
- o Other:

2. For which of the following actors do you think the platform is more relevant?

	UNIDO	Any other multilateral institutions such as "The World Bank"	Government of "developed countries"	Government of "developing countries"	Tax payers	Social activist	Citizen that receive Aid from UNIDO	Consultant and employees in international Aid	Private companies (suppliers of goods and services related with international Aid)
Extremely relevant									
Very relevant									
Relevant									
Not that relevant									
Not relevant at all									

3. Tick the most relevant Needs that this Open Data Platform should fulfil
   - o Get publication of news about the new projects or future Roadmap of the institution
   - o Description of the Open Data Transparency Initiative

- Engagement: ability to “like” and/or comment on datasets; suggest new datasets; social media links to Facebook, Google+, Twitter, etc.
- Tutorial about how to find the right information in the platform
- Searching Tools to find the right information (full-text search, faceted search, filtering and sorting of results)
- Ability to get geographic search through a Map visualization
- To get Data visualizations via charts and maps
- Combine and compare different results depending on the year of publication, topic, update...
- Ability to save visualization
- Ability to save specific searches
- Historical of the previous searches
- Multilanguage support
- Mobile support
- To get analytics about general statistics (visitors, page views, downloads...)
- Data traceability and archive of the previous versions
- General conditions of reuse and licenses applicable to the data contained in the catalogue explained in simple terms
- Get information at sub-national level, for instance per city or region
- Contact person details of a project
- Contact person details of the platform itself
- Procurement details at project level (who is providing which service?)
- Platform should be designed following the International Aid Transparency principles
- User should be regularly consulted before new features updates of the platform
- Aid recipient’s testimonials and suggestions
- Resume about the most frequently asked questions (FAQ)
- Description about how are the information of the platform request formula being processed
- A separated feature to show the main achievements and lessons to be learned

Appendix III: Users' perception and key indicators

1. User's perceptions and Key- indicators

After the contextual Inquiry some of the key-indicators of the user's perceptions regarding the experience within the Open Data Platform will be summarized here

2. Profile/ Enrolment

- o NGO
- o Volunteer
- o Government
- o University
- o Intergovernmental institutions (ex. United Nations)
- o Social activism
- o Recipient of AID program
- o Others...

In case user selected others specify: _____

3. User's age

- o 20-30
- o 30-50
- o 50+

4. User's gender

- o Male
- o Female

5. Technological Literacy

Very low 1 2 3 4 5 Very high

6. Do you know anything about the United Nations Industrial Development Organisation (UNIDO)?

Expert 1 2 3 4 5 Not at all

7. Have you searched for information regarding AID and cooperation projects online before?

Yes 1 2 3 4 5 No
regularly

8. For which of the following actors do you think the platform is more relevant?
UNIDO and similar Institutions

	UNIDO & Similar IGOs	Governments of developed countries	Governments of developing countries	Tax payers	Researcher/Journalist	Social activist
Extremely relevant						
Very relevant						
Relevant						
Not that relevant						
Not relevant at all						

9. Accessibility, Easy use and Comprehension

10. It was easy to access to the Open Data Platform?

Very easy 1 2 3 4 5 Not easy at all

11. Could you find the information you were looking for?

Yes I found all information needed 1 2 3 4 5 Not at all

12. How was the visibility?

Very good 1 2 3 4 5 Very bad

13. Do you understand all information displayed?

Yes, perfectly 1 2 3 4 5 Not at all

14. How would you rate the usability?

Very good 1 2 3 4 5 Very bad

15. Would you add any feature to improve usability such as a tutorial or support chat, other languages...: _____

16. Transparency key-indicators

Important indicators has been collected as key-factors to improve transparency in an Open Data Platform. Could you specify how goods is UNIDO platform accomplish the following requirements?

17. Find comparable data

Yes 1 2 3 4 5 Not at all

18. Descriptive information about the projects and activities

Yes 1 2 3 4 5 Not at all

19. Find disaggregated information at sub-national level

Yes 1 2 3 4 5 Not at all

20. Show forward looking budgets

Yes 1 2 3 4 5 Not at all

21. Time updated information

- o Yes
- o No

- o I do not know

22. Measures of outcomes and impact of the projects

Yes 1 2 3 4 5 Not at all

23. Measuring success through feedback from the communities that Aid is intended to help

Yes 1 2 3 4 5 Not at all

24. Interaction

25. Can you produce any content for this platform?

Yes 1 2 3 4 5 Not at all

26. Is this platform interactive?

Yes 1 2 3 4 5 Not at all

27. Dynamic of two-ways exchange (web 2.0) e.g. live chat

Yes 1 2 3 4 5 Not at all

28. Is there a FAQ (Frequent asked questions) feature?

- o Yes
- o No
- o I do not know

29. Share lessons learned with development community

Yes 1 2 3 4 5 Not at all

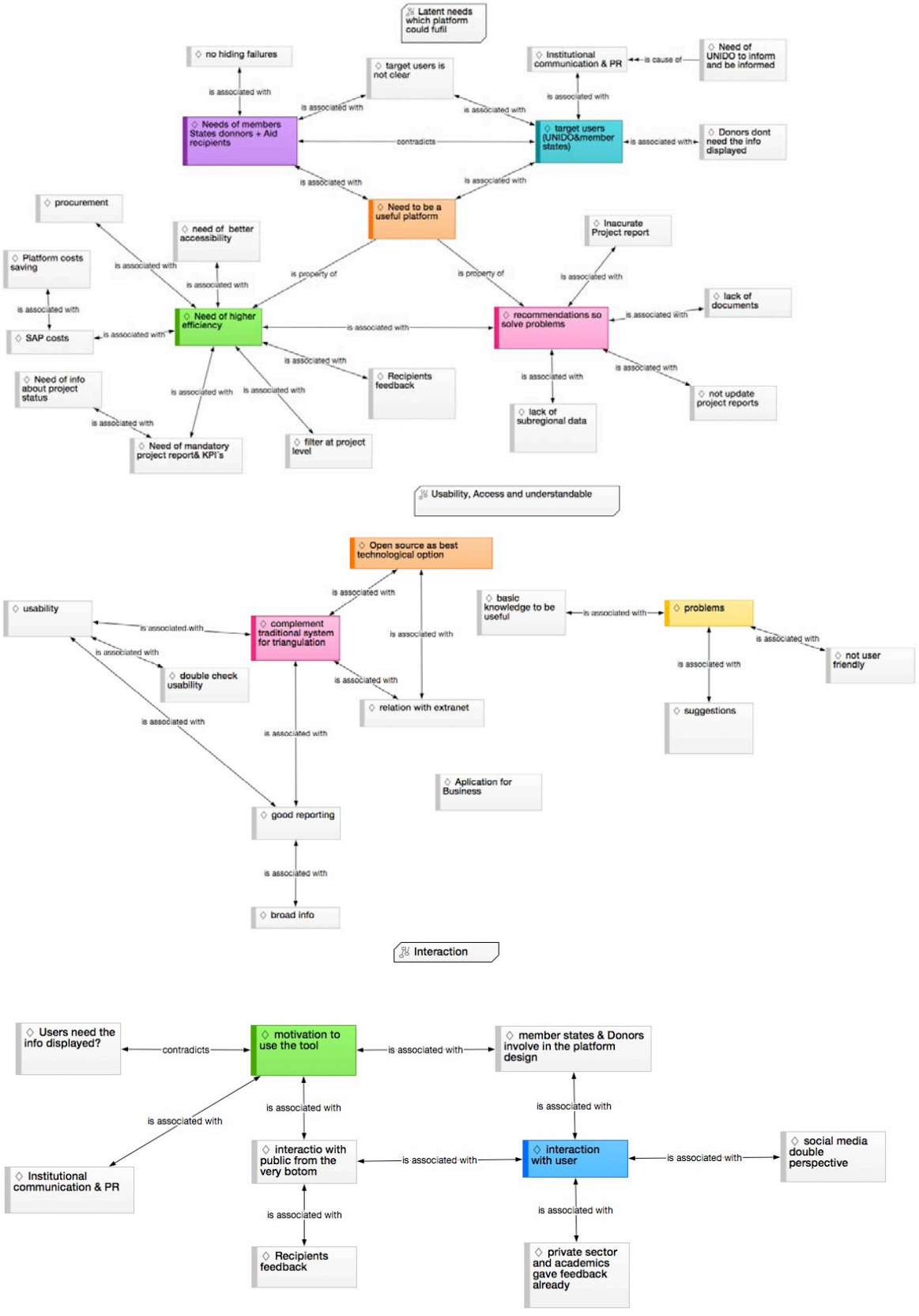
30. User can demand for responsibility/ accountability

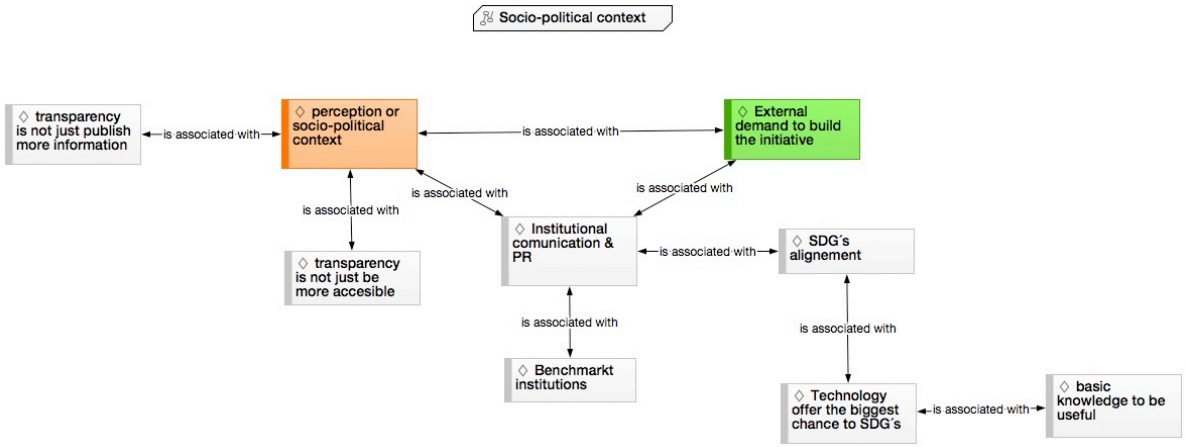
Yes 1 2 3 4 5 Not at all

Appendix IV: Random sample of ended projects of UNIDO

Year	Country	Project ID	Name	P. Document	Progress report	independant evaluation
2014	Indonesia	101099	Realizing minimum living standards for disadvantaged communities through peace building and village based economic development	0	0	0
2014	Lebanon	120178	Provincial processing cooperative unions and quality shift for a competitive olive oil industrial sector in Lebanon	0	0	0
2014	Yemen	105382	Preparation of a hcfc phase-out management plan	0	0	0
2014	Eritrea	104040	Enabling activities to facilitate early action on the implementation of the stockholm convention on persistent organic pollutants in eritrea	0	0	0
2014	Dominican Republi	100285	Stimulating industrial competitiveness through biomass-based, grid-connected electricity generation	1	0	0
2014	India	101064	promoting livelihoods in north eastern india: the cane and bamboo networking project	0	0	0
2015	Madagscar	140044	Développement d'une filière artisanale dans le Sud de Madagascar	1	0	0
2015	Afganistan	101048	Nutrition and Household Food Security in Afghanistan	0	0	0
2015	Macedonia	120332	Catalyzing market transformation for industrial energy efficiency and accelerate investments in best available practices and technologies in the Former Yugoslav Republic of Macedonia	0	0	0
2015	Turkey	102034	MDG-Fostering Sustainable Linkages for Turkish Textile SMEs (Spanish funds)	0	0	0
2015	Syria	101174	Formulation of the Al-Ghab Development Programme (Agro-Industries Pillar)	0	0	0
2016	Brazil	120130	The Eco-State at the root of the Amazon	0	0	0
2016	Cambodia	104034	Reducing Greenhouse Gas Emissions through Improved Energy Efficiency in the Industrial Sector	1	1	1
2016	Ecuador	103017	Industrial Energy Efficiency in Ecuador (IEEE)	1	0	0
2016	Ukraine	100025	Horlivka Chemical Plant remediation	1	0	1
2017	Namibia	100204	Trade capacity-building for exports in Namibia	1	0	0
2017	Iraq	101100	Operations and industrial maintenance training academy project	1	0	1
2017	Myanmar	140035	Promotion of Waste to Energy Technologies in the Rice Milling Sector in Myanmar for Access to Energy for Productive Activities	1	0	0
2017	Congo	130051	Environmentally Sound Management and Final Disposal of PCBs	1	0	0
2017	Pakistan	104146	One UN Joint Programme on Environment for Pakistan - Lime	0	0	0

Appendix V: Codes Network




Socio-political context
◇ transparency is not just publish more information
is associated with
◇ perception or socio-political context
is associated with
◇ External demand to build the initiative
is associated with
is associated with
is associated with
◇ transparency is not just be more accesible
◇ Institutional comunication & PR
is associated with
◇ SDG´s alignement
is associated with
is associated with
◇ Benchmarkt institutions
◇ Technology offer the biggest chance to SDG´s
is associated with
◇ basic knowledge to be useful