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Assessing Organizational Data Culture to Create an Ideal Data Ecosystem

Lauren M. Leary
SIT Graduate Institute

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It's the Data Revolution and the Year of Evaluation, Is Your Organization Ready?

Assessing Organizational Data Culture to Create an Ideal Data Ecosystem

By

Lauren Leary

The School for International Training
A Program of World Learning

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the requirements for the Degree of Master of Arts with Honors
in
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Abstract

The year 2015 marks a critical turning point in the global development arena. The Millennium Development Goals galvanized support and collaboration across sectors and now the world is recalibrating focus to prepare for the final push with the forthcoming Sustainable Development Goal Framework. We are also in the midst of a data revolution that aims to hold governments and organizations accountable to these goals and to ultimately create synergy between systems and processes in an ever-globalizing world. This paper intends to prompt discussion and learning around organizational readiness and preparedness for these imminent changes. Drawing from best practices within the Organizational and Business Development literature as well as from successful capacity building tools, I have created the Organizational Data Culture Assessment which allows organizations to evaluate the way they collect, manage, interpret, share, and use data. This will provide holistic insight into the data culture embedded within different functions of an organization. The assessment is particularly relevant given a recent emphasis in the development sector on scaling programming and incorporating information and communications technologies to enhance efficiency and ensure participatory monitoring and evaluation methods.

Keywords: ICT4D, Organizational Development, Data Revolution, M&E Systems, Innovation, Aid Management, Open Data, Data Culture, Institutional Strengthening, SDGs

Abbreviations and Acronyms

ICT4D	Information and Communications Technology for Development
IEAG	Independent Expert Advisory Group
KPI	Key Performance Indicators
MCSSP	Moldova Civil Society Strengthening Program
M&E	Monitoring & Evaluation
MDGs	Millennium Development Goals
MIS	Management Information System
NGO	Non-Governmental Organization
OD	Organizational Development
ODA	Organizational Development Assessment
ODC	Organizational Data Culture
PIA	Participatory Institutional Analysis
RFPs	Request for Proposals
SDGs	Sustainable Development Goals
SDSN	Sustainable Development Solutions Network
TADD	Timely, Accurate, and Disaggregated Data
UN	United Nations
USAID	United States Agency for International Development

Introduction

Background

As the globe is embarking upon a new chapter in regards to monitoring foreign aid and development efforts through the new Sustainable Development Goals (SDGs), it is critical that systems are strengthened and governments and organizations are held accountable. The Sustainable Development Solutions Network (SDSN), launched by United Nations (UN) Secretary-General Ban Ki-moon, is the group tasked with creating the SDGs. In succession to the Millennium Development Goals (MDGs), the SDGs will broadly address the issues of over 1 billion people still living in extreme poverty and the widening inequalities experienced throughout the world (UN Data Revolution Group, 2014). The MDGs consisted of 8 goals, and 21 quantifiable targets, and the proposed SDGs are 17 goals and 169 targets, which will be agreed upon in September, 2015 by the UN (please refer to Annex 1 for a glance at the proposed SDGs). To ensure universal alignment around achieving these targets, SDSN is promoting data innovation in the development field. Innovation in the data lifecycle will make for quality, relevant, and reliable data that can accurately inform donors and policy makers about the complex realities experienced in every day life and quite possibly reveal more sustainable solutions to challenges.

The urge for innovation in data comes from a recent report entitled, *A World That Counts: Mobilizing The Data Revolution for Sustainable Development*, by Secretary-General Ban Ki-moon's Independent Expert Advisory Group (UN Data Revolution Group, 2014). The report highlights the fact that there are significant data gaps, particularly in developing countries, as well as inequality associated with data use in regards to who is with and without information (UN Data Revolution Group, 2014). These findings, along with insights from evaluations over the years have garnered support for a UN-led data revolution within the field of international

development. According to the IEAG report, the term, “data revolution” was initially coined in 2013 in a report by the High-Level Panel of Eminent Persons and is defined by the IEAG as an “explosion in the volume of data” coupled with a “growing demand for data from all parts of society”. Figure 1, retrieved from the IEAG report, showcases the exponential growth in data just in recent years. The report mentions one estimate that indicates 90% of the world’s data has been created in just the past 2 years (UN Development Revolution Group, 2014).

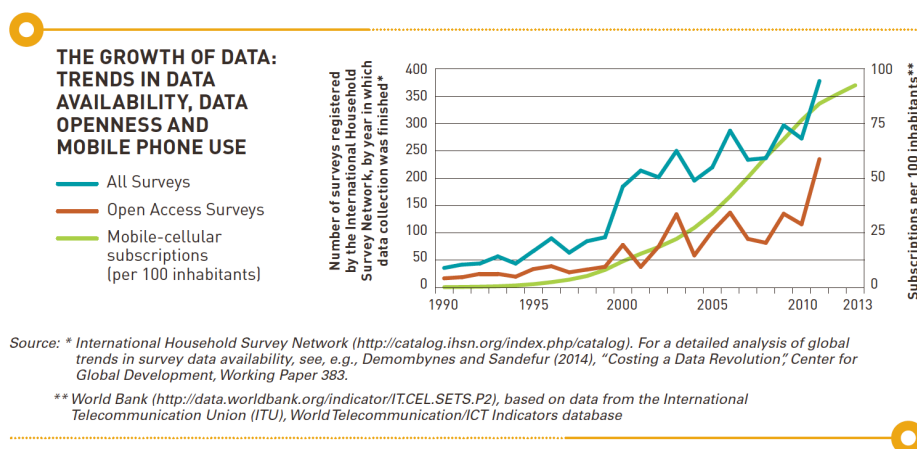


Figure 1. The Growth of Data Since 1990

The report recommends investments in capacity building efforts and institutional strengthening to ensure global readiness to monitor SDG indicators. Recently in July of 2015, Addis Ababa, Ethiopia, hosted the Third International Conference on Financing for Development, which, among other priorities, focused on the development cooperation landscape and relations between development finance actors around supporting the SDGs. The UN set out to encourage development partners at the conference to assist in funding the data revolution, build capacity at both national and civil society levels to manage big data, and promote global data literacy. At the conference, The ONE Campaign, US and Mexican Governments, UN Economic Commission for Africa, and the UN SDSN hosted the Harnessing the Data Revolution for Sustainable Development event, which galvanized commitments by various development

actors to create the Global Partnership for Sustainable Development Data and financially support closing significant data gaps that could hinder achievement of the SDGs (Global Partnership for Sustainable Development, 2015). Ireland's Minister of State for Development, Seán Sherlock, emphasized the need for "Timely, Accurate, and Disaggregated Data" (TADD) and the importance of "interoperability between all institutions and synergies between partners" (Seán Sherlock, 2015). Secretary General and CEO of CIVICUS, Dr. Dhananjayan Sriskandarajah, announced a pledge on the organization's behalf to invest in civil society capacity and stressed that "this data revolution will not achieve its full potential, which is the accountability revolution, unless we pay attention to the power of citizens to generate, use, and curate data to hold power holders to account," (Dr. Dhananjayan Sriskandarajah, 2015). This movement starts with creating and maintaining a healthy data culture at the core of organizations so they are proactive in regards to data demands and can contribute towards strengthening the entire global data ecosystem.

Implications for Organizations

Aside from being able to contribute to the global development agenda, there are other implications for a strengthened data infrastructure at the organizational level. The Non-Governmental Organization (NGO) sector is increasingly competitive and faces pressure and challenges when it comes to securing funds from donors. Surviving and thriving in the NGO world means harnessing creativity, innovation, partnerships, and valuable resources towards strategic projects that will impact local communities. USAID's recent reform agenda, USAID Forward, demands a focus on results from implementing and partner organizations to inform budget allocations as well as project corrections and designs. NGOs who wish to receive

funding from USAID and similar donor agencies need to be held accountable and produce results through valid and quality M&E data.

Organizations must also be skilled and prepared for the inevitable changes that will occur with the emergence of ICT4D. ICTs enable organizations to collect more reliable data faster, and this data, if managed effectively can be used to support administrative functioning as well as M&E. With a strong data culture established, organizations can calculate return on investments, appear credible when applying for future funds, and ensure a secure future for the organization. We have entered a knowledge-driven economy, where 25%-45% of the workforce is made up of people who work with knowledge and information (Pierce-Quinonez, 2015). Organizations must be able to rapidly analyze and summarize data and extract key takeaways and lessons learned in order to survive the data revolution. According to a TechChange online course blog post, not having a proper knowledge management system in place can decrease organizational efficiency by 12%. Due to transient talent, especially in the development sector, organizations risk losing 90% of knowledge acquired if systems aren't in place to capture and document this type of data (Pierce-Quinonez, 2015).

The Organizational Development Assessment Rationale

What is Data Culture?

Encouraging organizations to be data literate is essential to creating a strong data culture, and therefore, a strong ecosystem. In a Development Gateway blog post, data literacy means “creating more data producers, strengthening their ability to create quality data, and enabling policymakers to be better data users,” it also includes, “making sure development data users- governments, CSOs, journalists, and citizens can read charts and graphs, ask the right questions, and avoid making the wrong assumptions” (Davis, 2015). A literate data culture places value in

owning sound data as well as strengthening all areas of data management. Aristotle's adage, "the whole is only as good as the sum of its parts" is relevant to the data lifecycle. For the purposes of this paper, "data culture" will be defined as the comprehensive life cycle of data, broken down into 5 stages or categories including, data collection, management, analysis/interpretation, sharing (internal & external), and use. It is important to note that data management is a cross-cutting function across all stages, but is placed in a category in order to be assessed separately.

In the NGO context, the data that flows throughout the data ecosystem are typically smaller datasets comprised of social media and web analytics, volunteer, staff, beneficiary, service, and donor data, as well as sometimes geo-spatial, environmental, economic, administrative, establishment, agriculture, and household survey data to inform government policy. Figure 2, taken from a UN SDSN report, shows what type of data goes into official statistics within a broader data ecosystem that informs the SDGs (UN SDSN, 2015). The term "big data" is buzzing within the data revolution, and refers to large amounts of data uptake by larger NGOs, and the public and private sector. These large data sets consist of terabytes and exabytes, whereas small and medium NGOs usually manage gigabytes of digital information.

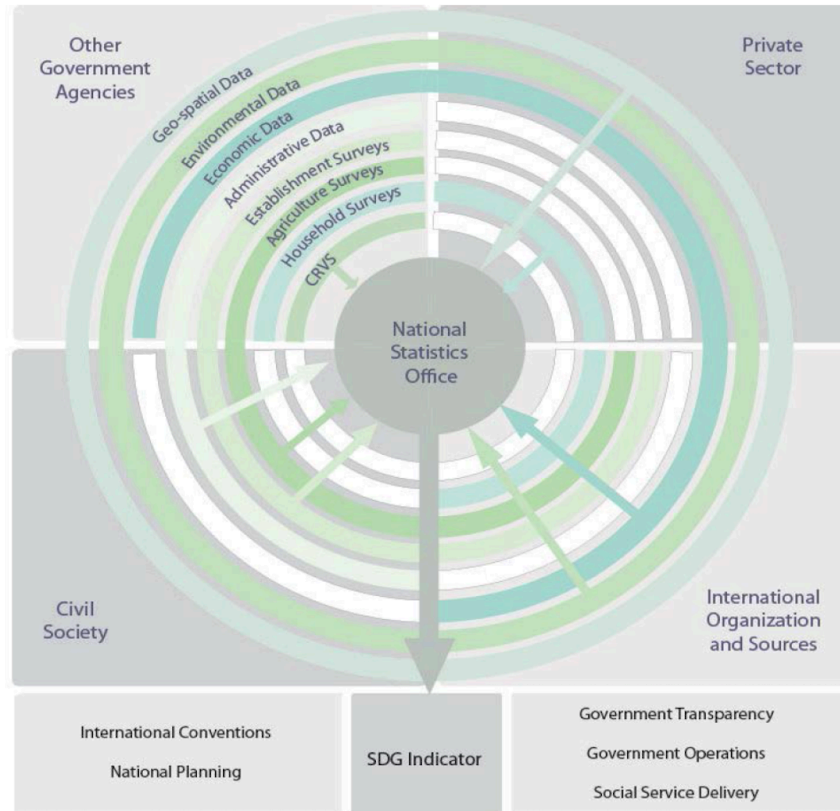


Figure 2. Official Statistics Within a Broader Ecosystem

The Organizational Data Culture (ODC) Assessment Design

In response to the growing demands for a robust data culture that can more accurately inform and drive development, I have created the Organizational Data Culture (ODC) assessment (please refer to Annex 5) that I hope will prompt discussion around readiness and preparedness for the post-2015 development agenda. The assessment is intended to provide organizations with holistic insight into the current data cultures of various functions within their organization and how connectivity between departments and units is enhanced as well as engagement with external partners and stakeholders, efficiency of programming, systems strengthening, and internal learning. Organizations must be strong at the core with reliable and dependable information flow to be influencers of change and create programs that will be sustainable. After completing this assessment, organizations should have a better idea of what

data capacity areas they need strengthened and how they can align themselves with national and international data collection standards as we approach the post-2015 development agenda.

As stated, this assessment looks at the overarching capacity area of data culture and within that, the data lifecycle stages; data collection, management, analysis/interpretation, sharing (internal & external, and use. In an organization, information should flow between and within all function areas to allow for maximum organizational efficiency. When considering this, I decided to look at seven organizational function areas (further described below). The assessment then allows an organization to assess each component of data culture within every function area. The OD field has produced a plethora of similar tools to assess organizational capacity, tailored for different contexts. I have drawn upon two tools in particular (please refer to Annex 2 to see the incorporation of other tools into the ODC) when designing the structure of the ODC Assessment:

1. *The Moldova Civil Society Strengthening Program Organizational Development Assessment (ODA) Tool*

The United States Agency for International Development (USAID) funded, Moldova Civil Society Strengthening Program (MCSSP) implemented by fhi360, serves to “strengthen representative democracy in Moldova through support for a constituent-driven, financially viable civil society sector.” (USAID, 2014). The program’s overarching goals are to build civil society capacity in several areas to ensure that organizations are able to represent citizen’s interests and concerns to policy-makers at all levels in country. Organizations will assess different functional areas 3 times over the program’s duration from 2013-2018 to identify areas requiring further development and training. Trainings would then be implemented to address the gaps and areas that most need strengthening. In the interest of both creating consistency across tools (for

possible comparison or practical use) and looking at functions of an organization that depend on or create data, I decided to look at the same 7 function areas as the ODA Tool of MCSSP, which consist of, Governance, Management Practices, Human Resource Management, Financial Management & Sustainability, Constituency Centered Services, Networking and Advocacy, and Media & External Relations. I also used the ODA Tool of MCSSP's stages of organizational development rating model and incorporated aspects of it into the ODC Assessment's Organizational Maturity Rating System (please refer to Annex 3) as the ODC Assessment will also primarily be used for small-to-medium sized organizations. The ultimate goal, shown in figure 3, is to be a "Data Revolution Ready Organization" which simply means that the organization has the capacity to manage the data it either currently has or will inevitably acquire in order to become a learning organization within its own specific context.

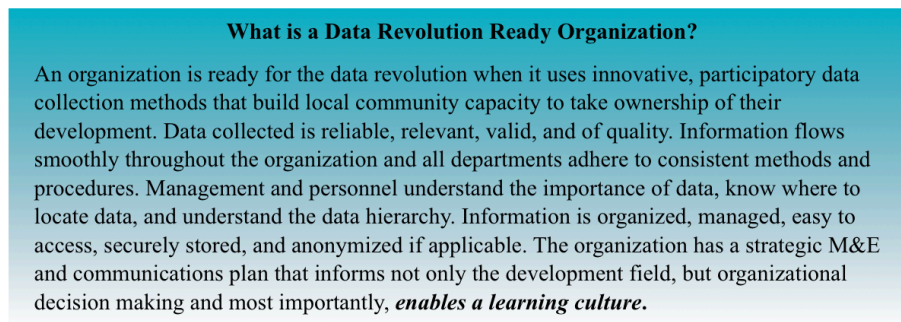


Figure 3. What is a Data Revolution Ready Organization?

2. *World Learning's Participatory Institutional Analysis (PIA) Tool*

World Learning's performance assessment tool was created in the early 90's and Armenia was the first recipient country to assess organizational capacity (M. Joakim, personal communication, July 30, 2015). It has since been used worldwide to understand the capacity of

organizations and to identify areas that most need attention. The PIA Tool is a self-assessment that is participatory in nature and leads to a strategic road map for organizations to move forward in their development (World Learning, 2015). It also looks at 7 functional areas adding M&E, Operations, and Sub-Grant Administration to the 4 core areas I focused on as well as Management Practices. It highlights an 8th core area of Service Delivery, which is at the heart of the tool. There are 5 process steps to implementing PIA, starting with engagement of the organization by the external facilitation group (if applicable), internal data collection on current procedures through focus groups and interviews over a period of 3 days, data interpretation by the facilitating team, and prioritizing areas to develop. A report of summarized results is then written. I was able to draw upon the PIA Tool's process when designing steps for the ODC Assessment, as it has been successful in many different country contexts with various types of institutions. The PIA tool also influenced the ODC's scoring method as it allows organizations to see where they sit on a scale from nascent to developed maturity levels. The PIA tool has evolved over the years to adapt to market trends and emerging institutional needs. World Learning has tailor made matrices not only for the NGO sector, but also for public, private, and higher education institutions (M. Joakim, personal communication, July 30, 2015). In response to USAID's Forward initiative, World Learning is currently analyzing the tool and running it through subject matter experts and an editorial board to review and finalize improvements (M. Joakim, personal communication, July 30, 2015).

The ODC Assessment's Guiding Questions

The overarching objective of most organizational assessments is to outline purpose, mission, and strategic priorities as well as to identify areas for improvement. When crafting the ODC Assessment's guiding questions, I wanted to draw attention to these core areas within the context of data culture; is the purpose of the data to be innovative in programming, to be able to advocate on behalf of communities, etc.? The most challenging aspect of creating the ODC Assessment was formulating questions that would provide insight into all 5 data culture categories/stages without knowing the ins and outs of how data should ideally be used within each organizational function area. Without a model organization, the basis for my questions comes from the current knowledge I have gained from working at various organizations and experiencing reoccurring system inefficiencies. I have also reviewed numerous reports, evaluations, and articles from the OD, ICT4D, and Business Development sectors to extract best practices and challenges to development when determining what organizations should be assessing.

An acclaimed book entitled, *Forces for Good: The Six Practices of High-Impact Organizations*, emphasizes the importance of organizations being able to advocate and serve, make markets work, inspire evangelists, nurture networks, master the art of adaptation, and share leadership (Crutchfield and Grant, 2008). Surveys, interviews, and case studies were collected over the course of four years from a range of development actors and organizations to identify these 7 practices as critical components of the 12 high-impact organizations that were studied. ODC Assessment questions were designed with these practices in mind to assess whether or not organizations have the necessary foundation laid that could nurture a data culture. The practices also apply to micro components within a culture. For example, the multi-faceted question, "Does

the organization use data and lessons learned to enable data cultures in partner organizations? Do they value other organizations innovating their data cultures and (if a donor organization) do they embed strategic and innovative data related initiatives into their RFPs?” refers to organizational practices of inspiring evangelists, nurturing networks, and sharing leadership.

Much of the OD literature, particularly within M&E and Learning, stresses the ability of organizations to convince donors of their commitment to results through program-area meta-reviews, meta-evaluations, research studies, sharing motivations with the wider public, and aggregating program results to connect with mission metrics and other governing frameworks, i.e., the SDGs. With a significant increase in mobile subscriptions globally, data quality and real-time data collection methods can be improved, but only if systems and methods are organized and consistent. The ODC Assessment evaluates consistencies across all data culture categories, especially in collection and reporting. Organizations should be consistent with data flow maps, data-gathering forms, instructions and reports. Many companies standardize tools for data display in reports; these can include, histograms, spreadsheets, scatter diagrams, and Pareto, cause & effect, flow, and control (trend or run) charts, etc.

The ICT4D field has emerged out of this focus shift toward results and data linkages and ICT4D literature suggests that poor data systems and lack of compatibility is what hinders ICT implementation most. I emphasized data connectivity and information flow between function areas in the ODC Assessment based off of these frequently reported challenges coming out of the ICT4D field. The Assessment includes a standardized question about MIS, which is central to an organization’s data culture. Many organizations use Salesforce, CRM, DevResults, and other cloud based management tools for M&E and project planning. It is imperative that organizations avoid parallel data streams through using an integrated database or system that can mitigate data

siloes. Another theme emerging from the ICT4D field is the importance of holding governments and organizations accountable through open data initiatives. Questions assessing if data is securely stored and anonymized as well as reported in a timely matter would allow organizations to reflect upon how transparent they are with their programming and even provide insight into their ability to advocate to governments for transparency.

An Economist Intelligence Unit report, *Fostering a Data-Driven Culture*, sponsored by Tableau Software, aggregated multiple perspectives on what companies can do to nurture data-driven cultures based on surveys given to 530 senior executives from around the world. Figure 4 shows some of the top strategies to promote a data-driven culture and many of the ODC Assessment questions were influenced based off these suggestions.

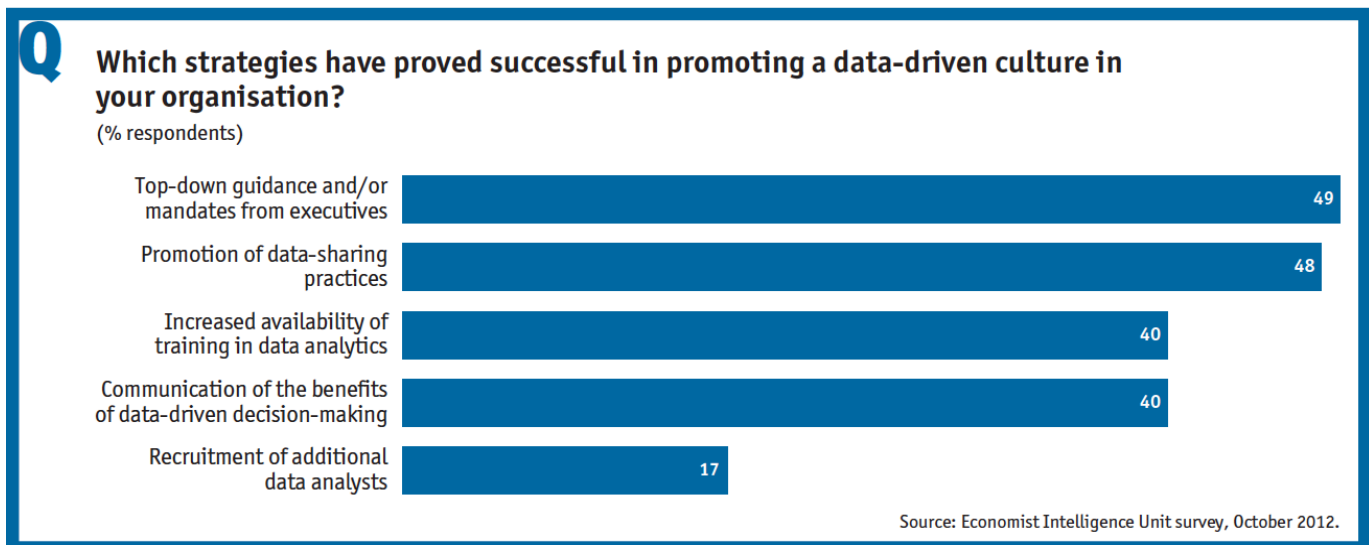


Figure 4. Strategies to Promote a Data-Driven Culture

To ensure that “top-down guidance and/or mandates from executives” is employed, the ODC Assessment asks many questions of the governance function, in particular if data has been collected on board attitudes towards data, how often meetings are held to discuss data, and if the organization realigns data needs to meet global demands. Questions for governance and

management regarding learning values address communication of the benefits of data-driven decision-making, which 40% of survey respondents report as a successful strategy. When asked the question, “ how important is it to have training programmes or partnerships in place to make people in your organization more data-literate,” 95% of respondents said somewhat to very important (Economist Intelligence Unit, 2013). Within the human resource management function area, questions prompt discussion around the hiring of skilled data specialists, as recruiting and retraining IT talent in efforts to keep them engaged can be a challenge. Nurturing a data-driven culture requires buy-in across the organization and trainings are important for all personnel to be up-to-date on cutting edge information, management methods, instruments, and sector trends. Tracking personnel success and satisfaction is also a strategic way to retain employees. The ODC Assessment’s emphasis on the human element in cultivating and nurturing a data culture led to the idea of possibly creating and soliciting individual data literacy assessments (please refer to Annex 4 for examples of individual data literacy assessment questions) as part of the ODC Assessment process. This idea of an individual data literacy assessment is also discussed in the *Timing* section further below.

Questions within the ODC Assessment are phrased in a way that guides organizations to assess whether or not processes, instruments, resources, and attitudes are in place to enable a data culture. Across all function areas, there are 57 data collection questions, 41 data management questions, 16 data analysis/interpretation questions, 49 data sharing (internal & external) questions, and 52 questions to assess data use. When considering what questions would spark the most constructive dialogue around data culture, I decided to standardize some questions (as can be seen in figure 5 and indicated with a * within the ODC Assessment) across department functions. A unique contribution to the ODC Assessment, the standardized questions will allow

ratings to be compared between department functions, field offices, and headquarters as well as with organizations of similar size, scope, and mission. The ODC Assessment’s participatory facilitative nature, inspired by the success of other OD tools such as Pact’s and USAID’s Organizational Capacity Assessments, allows participants to take ownership of the discussion.

Data Collection	Data Management	Data Analysis/Interpretation
<ul style="list-style-type: none"> • Are board members, managers, personnel, constituents, and partners attitudes assessed in regards to the organization’s data culture and values of learning? • Do board members, managers, personnel, constituents, and partners know and understand the organization’s data ecosystem? • How often are surveys initiated to monitor success of projects/programs/team efforts/individual progress? • Are data collection methods and tools consistent? • Are board members/managers aware of the data revolution, SDGs, and policies and efforts supporting them? • Does the board/do managers hold meetings to discuss the new SDGs and how to realign data needs to meet global demands? Are meetings frequent enough? • How often are innovative data collection methods employed? 	<ul style="list-style-type: none"> • Is there an established Management Information System (if appropriate) that connects to other departments’ systems as well as field offices? • How is data summarized/aggregated/disaggregated? • How often is data summarized? • How is accuracy of data verified? • Are data management processes consistent across departments/teams? • Is confidential data securely stored and are precautions set in place to ensure anonymity? 	<ul style="list-style-type: none"> • Have board members, managers, personnel, constituents, and partners assessed their data literacy? • Do board members and managers triangulate data sources to make the most effective decisions possible? • Do managers and teams analyze and interpret data in the same way or draw similar conclusions from analysis?
	Data Sharing (Internal & External)	Data Use
	<ul style="list-style-type: none"> • Do board members and management teams share reports from different departments with each other and with their teams? Do they share with external stakeholders? • How often are data updates made available inter-departmentally and to teams? • How often are graphics, maps, and other data visualizations used to convey messages or pitch ideas at meetings? • How easy is it to generate data or a data visualization for an impromptu meeting with management or key stakeholders? • Has a strategic dissemination plan been created? Is this plan evaluated periodically? • How public/transparent is data? • Are reporting consistencies established? The purposes and uses of reports are clear, reports are timely and include project specifics as well as decisions, actions, and next steps. Presentation styles are well-thought out and visually appealing and strategic. Length is appropriate for audience and includes data in various formats to appeal to different learning styles. How many images are used in reports? How diverse are images/graphics? Is report content understandable across cultures/ contexts? 	<ul style="list-style-type: none"> • Do human resource management personnel read the organization’s reports? • Do management and personnel read other organizations’ reports to compare findings/extract lessons learned, etc.? • Does management discuss learnings, failures, and the importance of reflecting upon shared learnings? • How often are KPIs monitored and evaluated? What type of decisions are made based on KPIs? • What type of data are most used? To which types of data are board members, managers, and personnel most responsive? • How often is the MIS system or database being used accessed? • Does the organization use data and lessons learned to enable data cultures in partners organizations? Do they value other organizations’ innovating data cultures and (if donor organization) do they embed strategic and innovative data related initiatives into their RFPs? • How often is stakeholder feedback data taken into consideration when making decisions about programming, strategy, etc.? • How often is (if applicable) Customer Relationship Software used to track relationship management indicators?

Figure 5. Standardized Questions from the Organizational Data Culture Assessment

Conducting the ODC Assessment Process

In order for organizations to get the most out of the assessment and learning process, I have suggested the following hybrid implementation approach inspired by previously mentioned

OD tools, the ODA and PIA Tools, as well as the Health Check Coordinator Tool (introduced below). The ODC Assessment should ideally be completed and discussed during a retreat dedicated to organizational or department strategy and each question should be discussed both in terms of where the organization is currently and where it aspires to be. Trends, obstacles, resources, and organization mission should all be considered when assessing against each data culture category. Cultural realities and ideas of data culture should be addressed to ensure discussants are on the same page in their understanding of what culture in general means to them.

Bond for International Development, the UK membership body that supports over 450 organizations in their international development efforts, has created the Effectiveness Programme, which includes assessment tools for organizations to evaluate and prioritize their strengths and weaknesses. The Bond Effectiveness Programme Health Check Coordinator Assessment package leads organizations through the following steps; approach and strategic involvement of organization representation, timing, commitment building, data collection and sharing, analysis of results, benchmarking, the creation of an improvement plan, and reassessing. The ODC Assessment approach follows these guidelines yet can still be customized to adapt to various contexts and priorities.

At the outset of approaching the ODC Assessment, I recommend organizations map out the data ecosystem that weaves throughout their sector or focus area and analyze the key actors that influence the system. This not only provides organizations with insight into the ecosystem in which they work, but can promote the strengthening of feedback loops. Organizations can start with asking the following questions:

- What are some national or international policies in place that affect data literacy, transparency, etc.?
- How connected is the assessed organization’s data system to other data systems or public MIS platforms?
- If the organization lacks a central MIS and is looking towards incorporating one, consider staff competence, complexity of instruments and procedures, relevance and sufficient amounts of collected data, financial restraints, data coordination and maintenance, etc.

There are various ways to map out data ecosystems. Figure 6 is a map that shows typical data relationships and factors influencing data supply and demand (Davis, 2015). This can be compared with figure 7, which demonstrates vertical information flow in the country context of Nigeria (Pathfinder International, 2014).

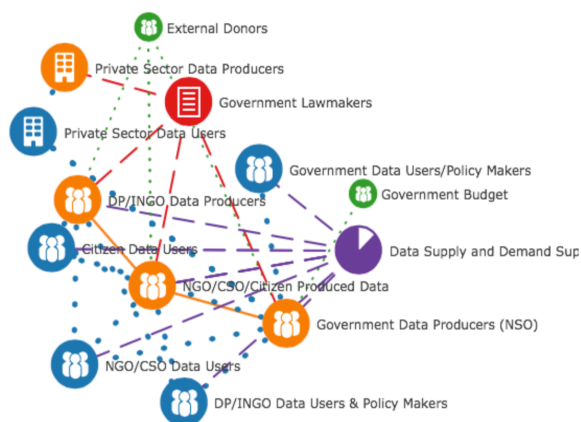
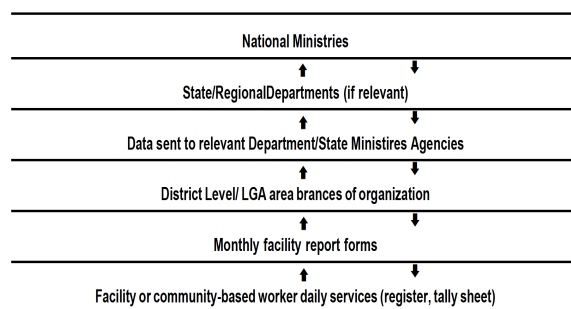


Figure 6. Data Ecosystem Map

Figure 5. Data Flow from NGOs to the Public Sector and Vice Versa



Decisions made at the top of organizations are also communicated downwards to the service facility level. This example is based on Nigeria's form of government.

Figure 7. Data Flow in Nigeria

Once an organization has mapped out the data ecosystem, OD priorities, allotted an adequate amount of time for data collection and organized a retreat, the assessment itself can be conducted.

The Approach

Bond’s Health Check Coordinator Assessment differentiates between various approaches to facilitating assessments. The Light Touch Approach typically involves a small, selected group of staff to facilitate an assessment. This can be a small team or a group of managers who discuss

questions and decide amongst themselves the most appropriate actions to take. A Moderate Approach to assessment means inviting staff that represents various perspectives and departments within the organization to the discussion. For the purposes of the ODC Assessment, this could be individuals that represent each function area, or even team members that manage data in its various stages. In a Moderate Approach, the representatives might survey their respective teams or units to get a comprehensive idea of attitudes towards data culture, etc. An In Depth Approach involves surveying all staff, external stakeholders, and partners to acquire a holistic perspective of organizational culture and how it affects the larger network. This approach may be more costly and time consuming, but worthwhile if an organization values learning and is ready for a transformation.

Timing

The Health Check Coordinator suggests considering timing issues before implementing the assessment. An organization should first discuss why they want to conduct the assessment now, programming and projects that are also happening at the same time, and external factors that could possibly hinder completion of the assessment. Other questions to ask include: Is the organization conducting the assessment (1) to attract funding from a donor, (2) to inform a reorganization or model change, (3) to establish a baseline for an institutional strengthening program, or (4) to better align itself with broader development standards? The idea of instituting an individual data literacy assessment also is dependent upon what systems are already in place and how much time an organization has to mandate it. Ideally the individual assessment will have been conducted and analyzed prior to the ODC Assessment. It would rate individuals on a scale from working proficiency to advanced and simply allow individuals to understand their

strengths and weaknesses associated with data and how they can contribute to the organization's culture as a whole.

Ownership

Because people are at the heart of culture and change processes, it is the participants who take part in the facilitation that drive the success of the ODC Assessment. It is also important to strategically involve stakeholders and create a dissemination plan for results sharing. Buy-in must occur at all levels for learnings from the assessment to take root. Nonprofit boards can use the results to inform organizational decision-making, donors and agencies will have a better understanding of how to support capacity building and organizational infrastructure, management and teams can use results to inspire project design and improve performance, and the development community can extract best practices from key findings as well.

Data Collection/Scoring

The ODC Assessment has a rating scale component that allows management or program teams to discuss each question that falls under the data culture categories and rate that category on a scale from 0-6. Each question could also be rated on a scale from 0-6 and then the average can be calculated to total each category's score. This would prevent discussants from forgetting their discussion of previous questions and allot more time per question. The total score for each data culture category within each function area can then be averaged again to rate the organization against the ODC Assessment's Organizational Maturity Rating System.

Benchmarking

One application for the ODC Assessment results is the use of benchmarking against different department function areas, other offices, or other organizations to assess progress and standing. The Health Check Coordinator suggests the possibility of benchmarking against other

organizations based on “size, theme of work, countries of work, approaches to programmes, and approach to assessment.”

Analysis/Improvement Plan

The level of analysis to be carried out post ODC Assessment implementation depends on the approach taken at the outset. If an In Depth Approach is used then mining the survey data might take longer and might be a much longer process. It might also be worthwhile to hire an external facilitator to analyze the collected data and transcribe the discussions in efforts to create a comprehensive improvement plan that addresses organizational priorities and objectives. Once an improvement plan has been institutionalized and departments and attitudes value the changes associated with the transformation, the organization can re-assess its progress and standing months or years later.

The ODC Assessment can be extrapolated upon and altered to adapt to different country contexts, sectors, measure different types of culture, etc. The assessment can be used as a one-time evaluation of culture or as a baseline for capacity building trainings. If this is the case, organizations can evaluate themselves multiple times or do a process tracking evaluation to determine how well they are incorporating new aspects of data culture into function areas. The ODC assessment is meant for small-to-medium sized non-profits, but any organization that feels inclined to develop their data cultures should use it as a baseline or expand upon it. Organizations can include more function areas or break down the 5 data culture categories even further to more appropriately fit the assessment to their culture context. The most important aspect of organizational change is how the people within the organization perceive and contribute to culture and the degree to which they are able to take ownership of the organization’s systems and processes. Once people are engaged and systems and structures are

established, an organization can free up its time to become more efficient, creative, connected, and mindful about its services.

Personal M&E Learnings and Reflections

Throughout the past year of gaining a deeper theoretical exposure to the field of M&E, I have come to realize the importance of systems strengthening and capacity building at the organizational level. My initial interest within OD was assessing organizational capacity to adopt ICTs that promote and enhance connectivity, efficiency, and learning. In my quest to understand how organizations can assess their readiness for ICT4D uptake, I was struggling to identify how to determine an organizations baseline for ICT4D use and culture. A start could be evaluating an ICT4D portfolio, but I don't have access to anything of the sort and can't visualize how such a process would be conducted. ICT4D is an emerging field and recent reports are only looking at the benefits, challenges, and potential applications for ICT4D. When combing through various research papers, I came to see that having a strong data culture at the core of an organization provides the foundation for adoption of new technologies, especially ICT4D for M&E purposes.

Within the M&E course, the use of ICTs for M&E was emphasized, and I was able to delve deeper into GIS technologies and their applications. Crowdsourcing geospatial data from communities is an important contributor to sustainable development and empowers people to take control of their lives and acquire a more holistic perspective of their world. I have always been a visual learner and thinker; I am a photographer, love drawing, and graphic design, so I believe in the power of effective mapping and am grateful that this course allowed me to explore how to channel my creative interests within M&E practices. I am hoping to pursue mapping for development further; I am currently enrolled in a Mapping for Social Good course through TechChange and am interested in fieldwork impact evaluations that use mapping.

As a result of the M&E course, I feel more confident as an M&E practitioner. Managing various projects in different country contexts gave me insight into how to monitor activities and write close-of-project reports. After a two-week field course in India, however, I was able to focus in on the intricacies of the evaluation process specifically. Through the creation of an inception report for an organization to understand how implemented education projects are impacting communities, I came to understand the importance of asking questions and the power of listening. Asking thought-provoking questions that inspire critical thinking and spark dialogue is at the heart of every successful evaluation. Guiding people and organizations to reflect upon their experiences and realize their true potential is what evaluation should be about and this realization is what inspired me to focus my Master Thesis on assessing organizational data culture through questions. I now feel as though I can contribute creativity towards monitoring plans and evaluations within any sector or thematic area. I have a better understanding of my strengths as well as areas in which I need to improve. I am looking forward to learning more about statistics and statistical software programs, MISs, how to manage and analyze data, and also want to learn more about specific country contexts and challenges within the world that hinder development and project implementation.

I also hope to acquire a better understanding of what monitoring the SDGs will look like on the civil society level and how organizations can prepare for collecting the data that is required of realizing these targets. The ODC Assessment is a work in progress and I look forward to receiving feedback from various sectors, organizations, and individuals as to how to improve upon it. I hope that the assessment will inspire organizational learning and contribute towards building a strong global data ecosystem that will allow the development community to realize solutions to the world's most pertinent challenges.

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Annex 1

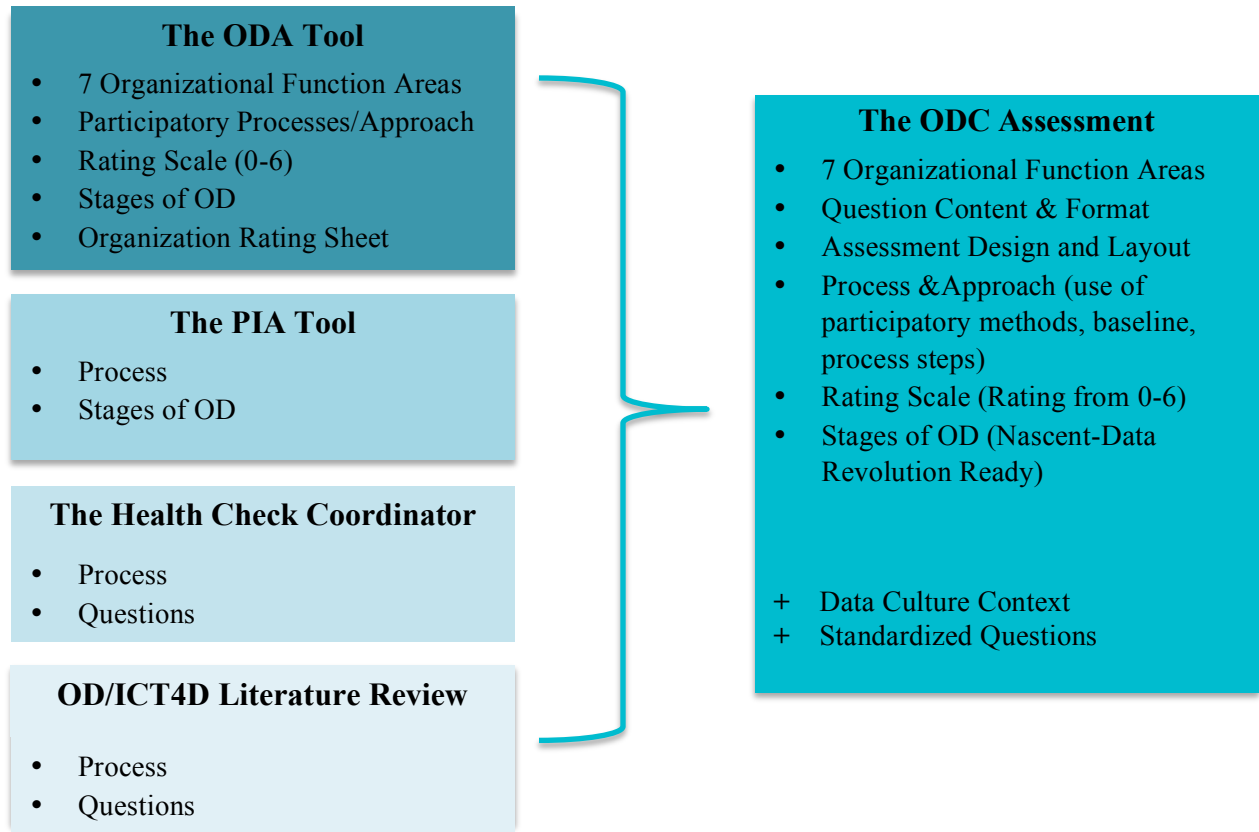
The Proposed Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs)	
1. End poverty in all its forms everywhere.	10. Reduce inequality within and among countries.
2. End hunger , achieve food security and improved nutrition, and promote sustainable agriculture.	11. Make cities and human settlements inclusive, safe, resilient and sustainable.
3. Ensure healthy lives and promote well-being for all ages.	12. Ensure sustainable consumption and production patterns.
4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all.	13. Take urgent action to combat climate change and its impacts.
5. Achieve gender equality and empower all women and girls.	14. Conserve and sustainable use the oceans , seas, and marine resources for sustainable development.
6. Ensure availability and sustainable management of water and sanitation for all.	15. Protect, restore and promote sustainable use of terrestrial ecosystems , sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
7. Ensure access to affordable, reliable, sustainable and modern energy for all.	16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
8. Promote sustained, inclusive and sustainable economic growth , full and productive employment and decent work for all.	17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.
9. Build resilient infrastructure , promote inclusive and sustainable industrialization and foster innovation .	

Graphic based off of outcome document of the UN Open Working Group on SDGs, July 2014

Annex 2

The Incorporation of OD Tools Into the ODC Assessment



Annex 3

The ODC Assessment’s Organizational Maturity Rating System

	Data Collection	Data Management	Data Analysis/Interpretation	Data Sharing (Internal & External)	Data Use
Start-Up Organization 0-1.4	The organization does not have the systems and structures in place to collect data.	The organization doesn't have a management system in place; data is inaccessible and difficult to locate. Information/paper may be in hard form and needs to be transferred into a database.	The organization is not data literate and feels uncomfortable with data.	Departments are siloed and teams are not sharing learnings with each other. Relations with external stakeholders, governments, and partners aren't strong and may even be viewed with suspicion. The organization may be in fierce competition for grants with other orgs and is likely to be much more reactive than proactive.	The organization doesn't use data to inform decision making and typically bases decisions off of instinct. It doesn't see the value of or need to learn and assess itself and its programs.
Developing Organization 1.5-2.9	The organization is developing some capacity for data collection. The structures are in place and functioning and the organization values and is working hard to collect quality data.	The organization is becoming better about storing information and data, but not everyone has access to information or can find it if it's needed. The organization is looking to acquire a more applicable database that serves their purposes.	The organization is not able to analysis data but is working hard to become more data literate.	The organization is building credibility with stakeholders, governments, and partners, and common interests have been identified.	The organization understands the need to learn from data and wants to make more informed decisions but may be unable to due to limited resources, time, etc.
Consolidating Organization 3-4.4	The organization has achieved quite a bit in regards to collecting quality, reliable, and relevant data. They are recognized by other sectors and partners for data collection.	The organization has established management consistencies with data storage and manipulation but must improve technical capacities and possibly acquire a more integrated database that will allow more reliable information flow between offices, departments, teams, etc.	The organization is able to analyze and interpret data, but slowly, and is not confident in its ability to make decisions based off data analysis.	The organization is sharing valuable reports and is engaging in dialogue with key partners within the sector, etc.	The organization integrates outcome and impact results into program design sometimes and is able to scale up programs or innovate based on data findings. It has a good foundation to build upon if interested in incorporating ICT4D.
Data Revolution Ready Organization 4.5-6	The organization has an empowered, data literate constituent base and uses participatory data collection methods to collect quality, reliable, and relevant data. The organization is innovative and a leader in using technologies to collect data.	The organization has an MIS that connects all offices, departments, and teams together. Data is organized, easy to find and access, securely stored, cross-checked across departments, and management consistencies are in place. The data ecosystem is mapped out and information flow is reliable and informative.	The organization has solicited data literacy assessments, personnel is strong and quick in analyzing data, and teams have a strategic plan as to how to navigate the data revolution and big, complex data sets.	The organization is seen as a credible producer and reliable sharer of information. It is prepared to hold governments accountable and can contribute meaningful data to conversations that may influence policy, etc.	The organization is aware of its impact and how it influences policy. It uses data for setting strategy, program design, and incorporates ICT4D into programming to enhance connectivity, efficiency, and sustainability. It is a leader and a model organization and encourages others to become data literate. Management and personnel are up-to-date on current reports and are proactive in initiatives.

Assessment Sheet Rating
(0) Not applicable
(1) Needs urgent attention
(2) Needs major improvement
(3) Needs improvement on a wide scale
(4) Needs improvement in limited aspects
(5) Acceptable, needs minor improvements
(6) Acceptable, should be maintained

Annex 4

Examples of Individual Data Literacy Assessment Questions

Examples of Data Literacy Assessment Questions

Do you know what different types of data exist within the organization?

Do you know what types of data to use for decision making?

Are you able to determine data accuracy?

Are you able to transform data into decisions?

Do you know how to collect data or where to gather data from if needed?

Do you know how to organize data once collected?

Are you able to navigate through reports and extract key-takeaways quickly?

Are you able to correctly interpret published data and recognize errors, misinterpreted results, etc.?

Are you able to identify conflicts of interest?

Do you know the difference between causation and correlation?

Are you able to determine a representative and significant sample size if collecting data?

Are you sharing data that is relevant? Are you sharing data often?

Are you sharing data with other teams, managers, stakeholders?

Do you frequently analyze data to learn/inform decision making?

Are you able to triangulate data?

Are you able to support conclusions with data when conveying a point or presenting an idea?

Are you able to create data visualizations and know how to interpret various types of visualizations?