

Global Sustainability Solutions Services



The Feasibility of Mapping ICT Initiatives to the UN Sustainable Development Goals

An executive summary
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Executive Summary

At the United Nations Sustainable Development Summit on September 25, 2015, world leaders adopted the 2030 Agenda for Sustainable Development, which includes a set of 17 Sustainable Development Goals (SDGs) to end poverty, fight inequality and injustice and tackle climate change by 2030. Each SDG has a set of specific targets, 169 in total, and each target will be measured using one or more indicators, specific measures with which to assess progress.

Can information and communication technology (ICT) companies play a critical role in achieving these 17 ambitious goals? If so, how can that impact be measured? Specifically, is it feasible to connect ICT initiatives at the solution, company and/or industry level to the SDGs in a way that can be quantitatively and specifically measured? What barriers make this difficult or, potentially, impossible?

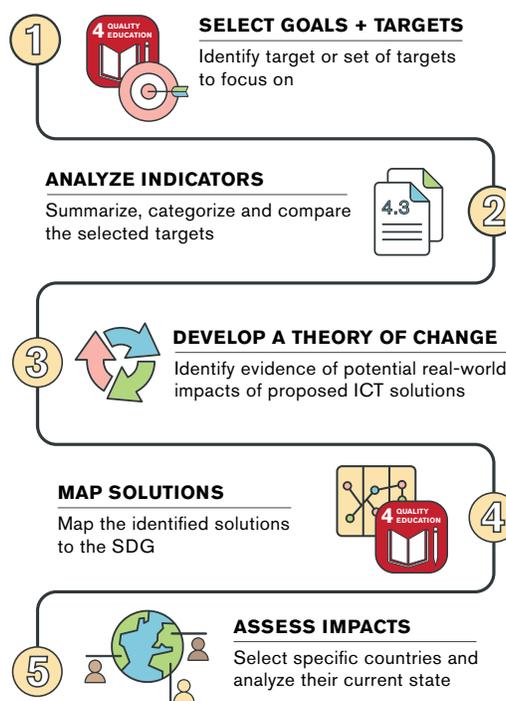
This report lays the initial groundwork for ICT companies looking to answer these questions so that they may join this global effort in a quantifiable way. Its purpose is to develop a process for mapping ICT solutions to the SDGs, measuring their effect and thus explore how ICT companies might make a meaningful impact on the achievement of these goals.

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Research Agenda and Methodology

The Global Sustainability Solutions Services team developed the ICT-SDG Impact Assessment Framework for mapping an organization's goals and efforts to the SDGs:

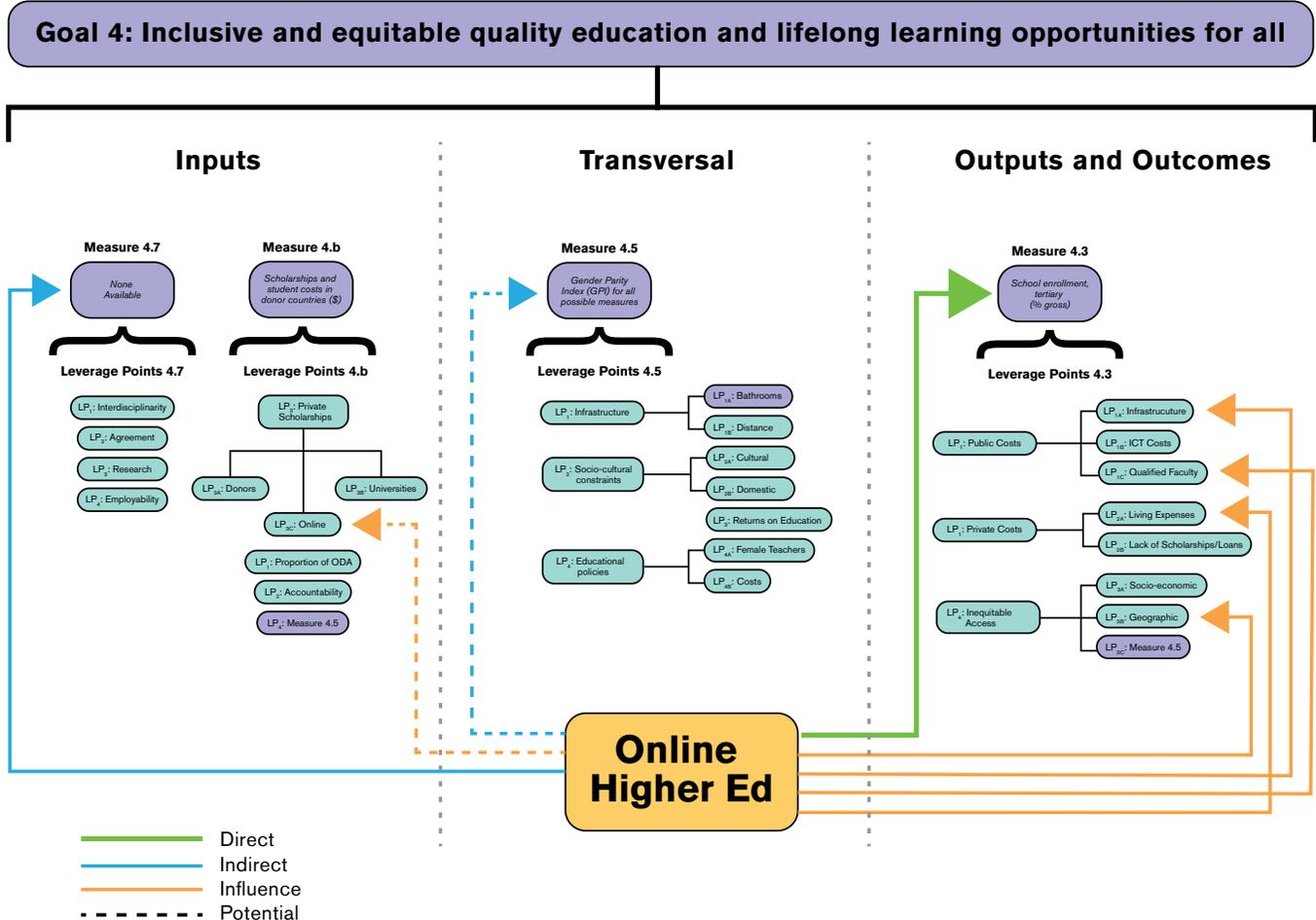
- 1. Select goals and targets.** For the purposes of this study, the team selected the fourth SDG: Ensure inclusive and equitable quality education and promote life-long learning opportunities for all (SDG-4).
- 2. Analyze indicators.** Summarize, categorize and compare the selected SDG target(s) and their proposed indicators to identify gaps between them, assess the availability of data and likely future developments.
- 3. Develop a theory of change.** Develop a theory of change (TOC) based on the indicators and their leverage points (drawn from the literature) and then identify evidence of potential real-world impacts of proposed ICT solutions.
- 4. Map solutions.** Map the identified solutions to the SDG target based on both direct and indirect impacts as laid out in the theory of change.
- 5. Assess impacts.** Conduct an impact assessment by selecting specific countries and analyzing their current state, then using the links from the previous step to estimate the impacts on the SDG target. The exemplar countries selected for this case study cover the different levels of development as characterized by the Human Development Index: U.S. (very high), Mexico (high), India (medium) and Nigeria (low).



Key Considerations and Constraints

- **Targets and indicators are not necessarily aligned.** The U.N. will measure progress on the SDGs with specific indicators (currently still in draft form) that are sometimes aligned closely to their targets and sometimes not. In all cases the indicators are narrower in scope than their targets.
- **The targets fall on different points of the TOC model.** Those that are targeting inputs will be much easier to act on and measure but have the least impact while the SDG targets that are outputs and outcomes will be the reverse.
- **The major constraint is lack of good data.** Very few of the proposed SDG indicators have good data and almost none have thresholds. There are also few quality studies on the impact of ICT on relevant education outcomes.
- **Selecting targets and countries will get easier over the next few years.** As the coordinated global effort to achieve the SDGs ramps up, the process will get easier. More data will come online as countries and international agencies release reports.
- **For some SDG targets (and their indicators) a rigorous mapping will likely never be possible.** Some of the targets will never be measured sufficiently, in enough places and over long enough periods of time to meaningfully assess changes. For others, the connection to ICT is just too distant and/or weak. Finally, many possible ICT solutions will lack sufficient evidence about their relevant real-world impacts.
- **The SDGs are interlinked.** There are numerous links between the targets. Several other groups of researchers are currently working on systematically analyzing and mapping the links between all of the SDG targets, and taking advantage of their work will be critical in the future to conduct more holistic mapping.

Example mapping of an ICT Solution to SDG-4



Conclusions

Based on what is known today, ASU Global Sustainability Solutions Services can draw the following conclusions:

- Mapping ICT solutions to the SDGs is possible in many cases. Some cases are more direct and easier to map than others, but overall the process is currently very difficult.
- Insufficient data is the primary barrier. A lack of meaningful data about the specifics of the SDGs and the relevant impacts of ICT solutions are the main barriers to meaningful mapping and measurement.
- The country is the level of measurement that matters for the SDGs. To measure progress on the SDGs, solutions and their impacts must be studied on a country by country basis.
- Evaluation of the leverage points independently of any specific solutions is critical.
- An unexpected and valuable result of the study was identification of the possibility of using a strategic approach to the SDGs. This could be essential in order to have projects with meaningful and measurable impact on the SDGs. The tools developed in this study can assist in strategically selecting targets and countries.

Next Steps

Next steps for practitioners and researchers:

- Fully quantify the impact of one case study against all of the SDGs.
- Map the impact of all corporate activities of one ICT company against a selection (or all) of the SDGs.
- Expand the analysis on the impacts of the ICT sector on SDG-4 from this report to the impacts of the ICT sector on all 17 of the SDGs.

Next steps for the ICT sector:

- Gather and share better ICT data.
- Find evidence of the impact of ICT solutions on specific SDG goals, targets and especially indicators.
- Create sector-wide alliances to establish standards for mapping solutions to the SDGs, collect more reliable data and collaborate on having a greater impact.