



Calculating SDG Indicators using Mobile Positioning Data

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Abstract:

For the 2030 Agenda, there are 17 United Nations' Sustainable Development Goals (SDGs), and 169 associated targets have been agreed upon in global partnership by all countries to build a better future. The central promise of this agenda is to leave no one behind.

Information and communication technologies (ICTs) can help to measure and accelerate progress towards every single one of the 17 SDGs. International Telecommunication Union (ITU) is taking the leading role in assisting countries to leverage the power of ICTs to meet the SDGs. In this project we propose a methodology on how to calculate two SDG indicators using mobile positioning data from mobile network operators. Indicator 9.c.1, proportion of population covered by a mobile network, is especially important for developing countries, but coverage of mobile networks by different technologies is relevant for all countries as we are seeing a new generation of mobile networks emerging with a pace of one per every 10 years or so. Considered a vital indicator for ICT access, it is important for measuring regional differences in ICT access. It makes countries comparable in the speed of development of the mobile network, and offers ways to measure the urban-rural and regional divides. ITU considers indicator 17.8.1, proportion of individuals using the Internet, a key metric for international comparison of ICT development and has included it into its ICT Development Index. In our methodology we extend country-based statistics to be more in-depth geographically and with technological breakdown, same as with indicator 9.c.1. The indicator should facilitate an understanding of accessibility and spread of mobile technology in different parts of the country. The resulting indicator should refer to the percentage of the total population of a specific area with a breakdown of used mobile network technology (2G, 3G, 4G). We will introduce the calculation methodology, needed data sources and how data quality should be assessed so that it could be done in any country. These two indicators are then calculated for Indonesia and Brazil, and a comparison with survey data is carried out.

Keywords:

Mobile Positioning Data, Big Data, ICT Indicators, SDG