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Bridging the Digital Divide

Challenges and Lessons Learned for ICT4D

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Over the past two decades, development organizations, governments, and private companies have invested in information and communication technology (ICT) projects to bridge the digital divide and foster economic development in poor countries. These efforts have sought to build out telecommunications and Internet infrastructure and provide devices, software, and training to developing and emerging market countries.

Mobile telephony in particular has had a transformative impact on a number of countries in sub-Saharan Africa, especially by serving as a platform to access finance and enable payment transfers. But aside from mobile phones, adoption of technology by individuals and government agencies in the developing world is extremely low, and very few information and communication technologies for development (ICT4D) projects and solutions have gone to scale.

In July 2015, CSIS hosted a workshop to discuss existing ICT4D initiatives and strategies driven by development agencies and private companies to identify what they are doing wrong and how they can be improved. The workshop drew out the experience of the private sector and the challenges it has faced in scaling up technology adoption in developing countries. In particular, the group focused on how to improve the enabling environment for adoption. Participants included key stakeholders from the public and private sectors including private ICT companies, donor agencies, NGOs, and development implementers that have a proven track record investing in ICT4D. The workshop produced seven key findings summarized below.

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- **Development agencies should prioritize ICT4D.** Technology has proven to be a powerful tool for economic and social development by providing access to education and economic opportunity, and building stronger and more durable communities. Despite the proven benefits of ICT, development agencies fund only a small percentage of technology projects in developing countries. If we want to see results, development agencies need to prioritize ICT4D initiatives, commit more money into these projects, and develop a strategic and coherent approach to using ICT projects to achieve development goals. Development agencies should consider blended financing models that leverage joint public-private partnerships between donors and private companies to improve adoption and sustainability. In particular, given the significant risk that exists, blended financing models enable donor agencies to share some degree of risk with private companies. This can take the form of first-loss financing, loan guarantees, political risk insurance, and technical assistance to support adoption of ICT by governments and other entities. Development agencies should also make better use of subject matter experts and advisory services to help guide countries to make better investment decisions themselves.

- **Affordability of Internet and mobile services is a major barrier.** Research shows that the cost of broadband internet in Sub-Saharan Africa is approximately 18-60% of minimum wages in the region, and about 500MB of internet costs about $30-40. This cost is prohibitive when considering that in 2014 the gross national income per capita in Sub-Saharan Africa was about $143 per month. Even with mobile phone subscriptions, only half of the world's population have their own mobile phone with cost being a major barrier. The gap in Internet access is even more enormous. Internet provides access to jobs, economic markets, and productivity, but only about 27 percent of people in Africa have access to the Internet. Donor agencies and technology companies must work together to create market efficiencies so that prices for Internet and mobile services drop in underserved developing regions. Mobile and broadband Internet serve as a foundation for further technology penetration, but cloud-based technologies may be a smart next step in investment to enable greater flexibility, scalability, cost savings, and enable additional innovation.

- **More effectively leverage incentives.** Targeting the right technology is key. There are many examples of projects that do not scale because the technology is not designed to fit the needs of the target audience. ICT4D projects should include incentives for adoption that take into consideration the conditions and specific needs of developing country or community. Donors should invest in demand-driven projects, rather than tech- or donor-driven projects. Donors should also work with developing country governments to develop and implement policies and regulations that remove barriers to investment and encourage ICT adoption and innovation. Strengthening the enabling environment through these reforms will make it easier for companies to invest in ICT systems and make adoption of new technologies easier.

- **Target individual consumers but also developing country governments and organizations.** Many ICT4D projects focus on individual adoption of technology, but organizational adoption, particularly by developing country governments, is potentially more impactful. To be sure the adoption of cell phone technology has had immense benefits for the

individual, especially when it has allowed for the use of mobile banking technology creating greater access to finance. Public sector adoption of e-government tools is deficient due to lack of funding, lack of understanding of the cost-benefit tradeoff, low success rates, and lack of ongoing tech support. However, public sector adoption can provide an important incentive to small and medium enterprise adoption of similar technology, and improve the delivery of efficient and transparent government services.

- **Invest in technical human capital and capacity.** We need to develop technology talent at all levels, including in developing countries as well as in-house technology expertise within development agencies. There are not enough people with skills to do technology development who also understand the local context to make it relevant to people in developing countries. Donors should leverage ICT knowledge in companies, governments, academia, and civil society to build ICT procurement, management, and development skills in developing countries as well as within their own agency. Donors should also consider investing in vocational education programs focused on growing in-country expertise in ICT management, cybersecurity, data analysis, and software development.

  Donors should increase the amount of support they provide for the reform of government procurement systems in developing countries. Without the right procurements system and well-trained professionals, countries are unable to properly assess all manner of acquisitions, including technology designed to improve the efficiency of government. Given the upcoming release of new procurement regulations at the World Bank, this is an opportune moment for donors to strengthen their work here and commit additional resources. It is also an example of how donors can help to create an enabling environment for the greater of adoption of technology.

- **Partner with the private sector.** Development agencies should find a way to more effectively partner with technology companies to achieve development goals. Especially when incentives are aligned, companies can significantly enhance adoption and sustainability of technology in developing countries through joint financing and by providing technical expertise and capacity. Partnerships to date have achieved notable success in a number of instances for economic development, health, and other areas, but remain relatively under-utilized for ICT projects.

- **Create more ICT pilot projects and identify winners.** Pilot projects enable more experimentation with different processes, concepts, technologies, incentive structures, implementation arrangements. They enable us to test if something works and how or why it works (or fails). But we need to do a better job scaling-up pilot projects that show signs of promise. Donors should also pursue partnerships with companies to identify and implement ICT pilot projects.

As donors and other development actors consider how the post-2015 Sustainable Development Goals (SDGs) can be achieved, it is important that technology and innovation are front and center. ICT4D should not be seen as a panacea for the tough work needed to build lasting,

resilient systems in developing countries. But it can and should be seen as an important enabler that helps to strengthen resilience, grow economies, strengthen institutions, and improve the delivery of government services.

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