

what goes around comes around_

< by Kate Wilson />

The United Nations adopted 17 Sustainable Development Goals (SDGs) in September 2015 with an aim to end poverty, protect the planet and ensure prosperity for all by 2030. These ambitious goals included a call for investing in technology and communications infrastructure. Because, unless we can close the widening digital divide between emerging and developing countries, UN efforts to achieve its 17 SDGs will not succeed. There are three things we need to do.

The price of failure is steep; poor healthcare, inadequate sanitation, limited access to education and economic opportunities are all forces that increasingly drive global instability.

Unfortunately, despite persistent investment by the development community in digital technology for emerging markets over the past decade, few projects have yet reached scale or made a meaningful impact in the mass-market delivery of services. This failure is primarily due to the fragmentation of approaches among governments, implementers and donors; an expertise gap in deployment of large-scale and sustainable digital services; an unproven value proposition for investment; and the inability thus far to share and then translate best practices and research into actions.

Why should you care about what is happening in the developing world? Because improvements in technology infrastructure matter for all our livelihoods. For example, the growth of new sustainable industries will have a positive effect on the environment. Climate change affects us all, not just those in emerging markets. Another example is disease outbreaks. Three years ago, the Ebola epidemic in West Africa killed more than 11,000 people in six countries. As Bill Gates noted in a New York Times Op-ed at the time, “If anything good can come from this continuing tragedy, it is that Ebola can awaken the world to a sobering fact: we are simply not prepared to deal with a global epidemic.”

Mr. Gates highlighted how most poor countries, where an epidemic is likely to occur, lack infrastructure for disease surveillance and tracking. Reporting remains paper-based in many areas. In this particular outbreak, we were lucky. Ebola is transmitted via direct contact among people – it could have been much worse. We only have to look back to 1918 when the Spanish flu – spread by air – killed more than 30 million people in a world where plane and automobile travel were not yet widespread. As Mr. Gates grimly noted, one can only imagine how many could perish

in our mobile world if a similar flu outbreak were to occur today. Closing the digital divide between developed and emerging markets is imperative to ensuring better responses to global problems like climate change, disease outbreaks and more.

Achieving digital inclusion – and subsequently the UN’s Sustainable Development Goals (SDGs) by 2030 – will require new approaches in three key areas:

1. the development of standardized platforms and services,
2. the introduction of new data sources and sharing agreements,
3. the ability to turn best practices and research insights into “how-to” guidance.

Doing these three things should decrease the amount of time and investment we are spending learning the same lessons. Digitization, if done properly, can provide the foundation on which the solutions to end poverty, protect the planet and ensure prosperity are built.

1. Platforms and Services

Platforms meet the varied needs and desires of billions of people by enabling millions of providers to deliver content and services. Today’s dominant technology companies created platforms through which others deliver a variety of digital services and apps. Amazon started as an online bookstore but now provides the technical infrastructure for thousands of digital service providers (DSPs), while Apple, the world’s wealthiest company, makes hardware and software platforms on which companies now deliver a staggering two million apps and services.

In digital development, we must start with the basics. The ability to use existing platforms will define our success. We should build new technology only where targeted communities do not have working potential solutions in place. Through the effective use of platform

development, the private and public sectors can lower barriers to large-scale service delivery and focus on building a robust and varied ecosystem of providers and services to meet the needs of underserved women, men and children.

When creating a digital service, a provider may choose between two delivery channels: Core Mobile Services (CMS), a bundle of services available to those with a mobile signal and phone; and the internet, the vehicle through which all modern services such as web pages, apps and streaming media are delivered. It is also what connects smart mobile devices and computers to the cloud and services.

If providers decide to deliver a service via a mobile phone, they must establish business and technical relationships with every mobile operator in each target market. This onerous task requires more resources and time than most providers are willing to invest. In Uganda, for example, there are six operators for roughly 39 million people. By contrast, the Internet is unified. A DSP needs only to offer its service on the Internet for it to be available to anyone globally who also has online access. This unification of the channel has enabled Internet-based services like Facebook and WhatsApp to reach global scale with over a billion users.

In developing markets, however, infrastructure costs, affordability and awareness may preclude the very audience DSPs hope to reach from obtaining Internet access, particularly women and girls. In addition, creating high-quality software is expensive – and challenging. Projects are often underfunded with donor investments split across multiple similar initiatives, dooming them all to failure.

Despite these challenges, there have been successes. M-Pesa, a mobile money transfer system in Kenya has made SMS-based money transfer ubiquitous throughout the country. Launched in 2007 by Safaricom, Kenya's largest mobile operator, it allows users to deposit,

withdraw and transfer money without requiring a bank account. More than 60 % of adults now use M-Pesa for \$665 million transactions a month. Studies have found that M-Pesa has resulted in a 5 - 30 % increase in household incomes across the country.

To ensure more stories like M-Pesa's, organizations are taking steps to reduce the barriers DSPs face in developing, deploying and scaling their services, while increasing the size of the addressable market. Specifically, the International Telecommunications Union and DIAL are working to identify technology gaps and prioritize development of high-impact software, platforms and applications. Similarly, companies like Twilio, Nexmo or Tropo aggregate CMS services in specific markets so that DSPs can reach more users faster and at a lower cost. Looking at how we take these models and scale them across geographies is critical.

2. Data Access and Sharing

Data access and sharing refers to the use of information generated from mobile and digital devices and services, which, if available on a timely basis and analyzed in ways that protect consumers' privacy, has the potential to inform and greatly improve public sector decision-making.

Using digital data for social impact in emerging markets is still in its infancy despite efforts by organizations such as Flowminder and Real Impact Analytics to use network data for social good. With billions of people now using mobile phones and other digital services, there is potential to generate unprecedented volumes of data in emerging markets, and the scale creates new opportunities for generating actionable data.

While the value of data was proven during the 2015 Nepal earthquake relief effort when, for example, humanitarian agencies used mobile records to map population movements,



The AlexNet image classification training architecture in December 2016. The different colours represent different kinds of connections in the neural network.

a standardized, easy way for private sector and development organizations to share or leverage insights before a crisis hits does not exist today. Why?

Mobile operators remain reluctant to share data due to perceived competitive risks, costs, technical challenges and legal uncertainties, while governments, donors, NGOs and the development community still do not have a good understanding of the value of data, outside one-off emergency situations. Their limited interest does not translate into a willingness to support research and analysis financially so progress to expand the use of data has been slow.

Capacity presents yet another barrier. Some of the challenges here are driven by a lack of uniform standards and expertise, affordability and a culture that still considers data for development a philanthropic rather than a commercial endeavour. These are compounded

by technical challenges around extracting, transforming and anonymizing data that is to be shared.

Institutional and regulatory challenges must also be considered. Debates on data privacy, ownership issues and legal frameworks continue to plague efforts to scale data sharing efforts. Data governance is still in a nascent stage and there is a fear that policy makers may take extreme measures such as data censorship or content filtering to mitigate risk.

The good news is that organizations are already investing in new and existing platforms to test both what works as well as what yields the most promising results so that they are able to recommend solutions providing robust and integrated data capability. For example, organizations representing verticals from health to finance would be able to extract mobile call data records to make better, fact-based, decisions.

Projects like this prove accessing and using mobile and Internet data will lead to a viable data sharing ecosystem where all parties – from governments to donors to implementers – will benefit. This in turn will lead to improved public service delivery and decision-making, enhancing the lives of millions of vulnerable and underserved women, men and children, ensuring the UN SDGs become a reality by 2030.

from their donor or other funders to create custom products and services as a way of proving their ability to innovate and provide thought leadership versus building and adding to existing efforts.

A root cause of this barrier is a lack of incentives. For example, while individuals at donor agencies and foundations may genuinely want to collaborate better, their institutions may not always allow this flexibility. Even when they can cooperate with

{ The pace and complexity of innovation make it difficult to understand the most critical and actionable implications of new technologies_});

3. Changing how we learn

There is an untapped opportunity to amplify the impact of the development community's efforts by fast-tracking its collective learning curve and encouraging and supporting more evidence-based action. As successful projects take root, an important step will be to deliberately extract lessons from a single example and to share among stakeholders practical steps for how to achieve results that can span geographies and sectors.

Two key barriers have continued to slow down the efforts of governments, donors, development implementers and industry to move in this direction. The first is the fragmentation of efforts by key actors in the ecosystem, which often leads to incremental or duplicative efforts that do not build on prior investments, are not sustainable and do not scale. For example, government ministries struggle to build consensus around shared technological infrastructure. Donors continue to pursue duplicative, parallel research, tools and strategies that do not build on the work of prior programs with similar goals. Implementers often have incentives

organizations supporting similar programmatic goals, but the cost may be prohibitive in terms of time and effort.

The second barrier is related to capacity and knowledge, for which there are several contributing root causes. First, a fundamental challenge in many markets is the mismatch between educational opportunities and the number of people necessary to create a thriving digital ecosystem. Second, the pace and complexity of innovation make it difficult to understand the most critical and actionable implications of new technologies and business models, especially in the key verticals of health, finance and education. Third, few organizations have the resources or incentives to capture and share best practices or offer practical steps in how to achieve success in designing and deploying digital services. Rather than leveraging knowledge gained from past efforts, organizations often reinvent the wheel.

While there is still much work to be done, there are examples where organizations have translated success into "how to" guides for others to follow. In 2013, PATH published "Planning an Information Systems Project: A Toolkit for Public Health

Managers." This toolkit was designed to give practical information to public health managers to help them implement information and communications technology in health information systems. It summarizes best practices and lessons learned from a project aimed at optimizing the vaccine supply chain. Likewise, in 2015, the World Health Organization and its partners launched a new toolkit to help mobile health workers scale innovations. These types of programs and collaborations will benefit the entire development community.

For more success stories going forward, we need to encourage the adoption of the Principles for Digital Development (PDD), a set of high-level heuristics that digital development projects should follow. The Principles are grounded in years of donor and implementer experience, taking both the good and the bad to develop a set of guidelines aimed at making digital development programs more effective, efficient and impactful. There are currently over 65 organizations – donors and implementing organizations – that have endorsed the Principles. As stewards of the Principles, DIAL will make this high-level guidance practical, action-oriented and relevant for organizations implementing digital development programs in-country through a series of toolkits. Working closely with the PDD community, DIAL will address the specific needs and resource gaps in how-to knowledge in this sector.

< Conclusion />

The first step to ensuring the success of these ambitious goals is to close the digital divide between the wealthy and most vulnerable. This can be achieved by focusing on three key areas: the development of standardized platforms and services, the introduction of data sharing and the widespread availability of research insights for making decisions. Estimates suggest this digitization could contribute US\$6.3 trillion in additional GDP and 77 million new jobs over the next 10 years to 3.9 billion people in middle- and low-income developing countries in Asia, the Middle East, North Africa and Latin America.

The Digital Impact Alliance (DIAL) is poised to drive these changes forward and help make the UN SDGs a reality. By channelling resources through the UN Foundation, a neutral entity, and working collaboratively across partners, geographies and verticals, DIAL can help address the key bottlenecks preventing platforms and services and data for development efforts from scaling. At the same time, it can provide insights and impact to stakeholders across the digital development ecosystem.

DIAL's mission is to overcome systemic barriers to enhance the collective efforts of donors, governments, private industry and others in the digital ecosystem. As progress evolves, digitization will shift from disruptive innovation to common practice. We will know it has taken hold when the world's most vulnerable are receiving a wide range of online services at affordable prices, the development community understands and uses data routinely for public service delivery and creating new programs, and governments, donors and implementers adopt evidence-based best practices in funding, design and deployment of digital services.