

Using Technology for Social Good:

*An Exploration of Best Practice in
the Use of Information and Communication
Technologies (ICTs) for Development*



 **COMMUNICATIONS**
United Methodist Communications
THE UNITED METHODIST CHURCH

A Discussion Paper Produced by
United Methodist Communications
ICT4D Church Initiatives

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About United Methodist Communications

As the communications agency for The United Methodist Church, United Methodist Communications (UCom) seeks to increase awareness and visibility of the denomination in communities and nations around the globe. United Methodist Communications also offers services, tools, products and resources for communications ministry.

About UCom's ICT4D Program

UCom meets the communications, public relations and marketing needs of The United Methodist Church and its members. For local churches around the world, UCom provides communication resources and services including technology hardware, software and support through ShopUMC (shop.umc.org). Since 2011, UCom has been involved in the field of ICT for Development (ICT4D) to use the growing reach of modern communications technologies to empower individuals and communities, and to enable the human spirit to flourish.

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Solar panels power a computer lab at the Thomas Food Project in Thomas, Haiti.
A UMNS photo by Mike DuBose

GUEST FOREWORD

Effective communication is a prerequisite for success everywhere these days, not just at the White House where I learned that lesson as press secretary to Bill Clinton, but even in our own beloved United Methodist Church, where I have had the honor of serving as a board member of United Methodist Communications (UMCom).

UMCom was formed in 1972 with the mission of informing, inspiring and engaging the people of The United Methodist Church and the world. Since UMCom's founding, transformations in communications have continued to radically shape and reshape the world we live in.

The advent of cable television created the 24-hour news cycle. The explosive growth of the Internet challenged traditional industries with new, network-based players that have gone on to disrupt industry giants in movies, music, shopping and more. More recently, the rapid spread of the mobile phone has taken computing more powerful than that which was used to put a man on the moon and placed it in the hands of people everywhere.

Around the world, the reach of communication is growing at an unprecedented rate as people gain access to mobile phones and the Internet. Beyond enabling people to contact a family member or friend, this unprecedented level of connectivity also is enabling access to information and services that can lead to improved lives and livelihoods.

Recognizing this opportunity, UMCom has created the ICT4D Church Initiatives program, which is undertaking activities that leverage modern communications technologies to empower individuals and communities, and enable the human spirit to flourish.

This first discussion paper of UMCom's ICT4D Church Initiatives is designed to introduce readers to the use of modern communications technologies (including mobile phones, computers and the Internet) to support development programs.

I hope you will find this work as informative as I did, and I hope it will continue to enrich The United Methodist Church's tradition of service-based works.



Mike McCurry

Mike McCurry

*Former White House
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FOREWORD

Communications, like communion, is derived from the Latin word “communis,” meaning ‘of or for the community.’ Sharing is at the heart of what we do as United Methodists, both by sharing our faith and living it through our actions.

Much as we nurture our faith through congregation and prayer, we nurture our community by building close relationships—including relationships with those we are seeking to serve.

In many parts of the world where our congregations are growing fastest, communications that used to happen through word of mouth, print or radio in the church or community increasingly are happening through a device that many of us will not leave home without: the cell phone.

More than 7 billion mobile subscriptions are in use today, over 5 billion of which can be found in developing countries. Rising mobile network coverage and falling costs of mobile phone handsets mean that in many parts of the world we are beginning to overcome the digital divide.

While technology is not a panacea, it can be an important tool for development. This paper was developed to orient those working within the United Methodist community to guiding principles in the use of modern information and communications technologies (ICTs) in development work.

It discusses some best practices in the use of technology for development, recognizing that against a fast-moving backdrop any guidance should continually evolve to stay current.

It introduces the “ICT4D” (or information and communications technology for development) field and provides an overview of key topics, such as appropriate technology, user-centered design, and tools that enable conversations with communities through text message, email, social networks and web platforms.

We hope you will find this discussion paper both informative and inspiring. ICTs can create powerful new opportunities to demonstrate our faith through action in new and meaningful ways. We welcome your feedback and ideas on the “Guide” page at www.umcom.org/bestict4d.



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Students work in the computer lab at the Thomas Food Project in Thomas, Haiti. The program is part of a United Methodist Communications effort to use technology for development. A UMNS photo by Mike DuBose

Introduction

How has technology influenced the path of international development, and how can information and communications technologies (ICTs) be used to strengthen and improve development projects undertaken by the United Methodist community?

To answer these questions, this discussion paper draws from conversations with eight experts whose interviews are featured as part of the UMCom blog series *Best Practice in ICT4D: A Conversation*, which can be found online at www.umcom.org/bestict4d.

The paper begins by providing a brief summary of evolutions in technology and development that have given rise to the field of ICT for Development, or “ICT4D.” Zooming through the past half-century, the introduction highlights transformations in communications technologies and trends in economic development that have brought us to where we are today.

The second section explores the field of ICT4D more fully. It examines how rising access to ICTs is changing development and how technology can best be used in the context of development projects.

The third section introduces the concept of user-centered design in development projects and discusses the importance of collaboration with local communities. It introduces “agile development,” a term borrowed from the technology sector, which encourages brainstorming, prototyping and iterating early in the project cycle to learn quickly what works.

The fourth and final section looks at key factors that contribute to ICT4D project sustainability. As the field evolves and moves away from pilot programs that dry up when donor funding runs out, what techniques can practitioners use to ensure that programs continue to meet the needs of the local communities?

As a discussion paper, this document is meant both to inform and create a conversation or a debate about the topic at hand. As you will read in the pages ahead, the most successful ideas are those that are adaptable. To that end, we hope you will join this conversation and growing practice area, and share your ideas at www.umcom.org/bestict4d.

Technology and Development: 50 Years of Rapid Evolution

Section 1

The past 50 years have been the most successful in history in increasing access to health and well-being in countries around the world. Economic growth has increased fivefold since 1950, propelled by the steady integration of the world economy and significant technological innovations that have accelerated change across the planet and altered the way people live.¹

Despite this era of unprecedented economic advancement, a clear need for more equitable growth, especially for the most poor and vulnerable, remains. As the fortunes of some countries rose, some 100 countries experienced economic stagnation or decline, with average incomes in more than two-thirds of those countries falling to less today than what they were in 1980.²



The Cité Soleil slum, where Seung Don Kim serves, is one of the poorest areas of Port-au-Prince, Haiti. Kim is a missionary of the Korean United Methodist Church of South Florida in Fort Lauderdale. A UMNS photo by Mike DuBose

Four billion people, over half of the total population, live on incomes of below \$3,000 a year in local purchasing power. For these people at the base of the economic pyramid, access to essential services such as banking, health care, sanitation, and clean drinking water remains limited.³ This presents a persistent and significant challenge for today's international development efforts.

1. World Resources Institute. <http://www.wri.org/publication/content/8372> Web. Retrieved July 23, 2013.

2. *Ibid.*

3. Karippacheril, Tina George, Fatemeh Kiayin, Mark de Reuver, Harry Bouwman, "Serving the poor: Multisided mobile service platforms, openness, competition, collaboration and the struggle for leadership," *Telecommunications Policy* 37 (2013), p 24.

A Shifting Development Landscape

What drives development? Owen Barder, a development economist at the Center for Global Development, tells us that historically economists have looked for a single ingredient to propel economic growth.⁴ In the past 50 years, this has included efforts focused on capital infusion, the spread of technology and knowledge, building and strengthening institutions, and politics.⁵

Yet none of these variables in isolation was able to drive the levels of development desired. Today, Barder writes, there is a growing recognition that development should be seen not as fueled by any single ingredient, but rather by a diverse ecosystem of factors working in concert with one another. This includes complex political, economic, legal and financial institutions and systems, and how they work together to increase quality of life.

Complex adaptive systems are systems that are made up of diverse, interconnected elements that adapt to their environment. They can be found all around us: in animal biology, financial markets, weather systems and human physiology, to name a few examples. In biology we see adaptation through feedback playing a critical role with the advance of the most well-adapted genes. In financial markets, we see adaptation through feedback at work when bankruptcy eliminates failing firms.⁶

Despite the prevalence of complex adaptive systems, it is only recently that theoreticians and economists have applied the study of these systems to global development. Doing so has illuminated how traditional development efforts have fallen short in understanding the importance of adaptation through feedback.

Looking at societies as complex adaptive systems, we understand that people, products, firms and institutions all adapt and evolve, and interact with one another in the process—and that taken together, this informs development outputs. While economic growth is seen as an important factor in reducing poverty, it's now understood that it alone cannot guarantee well-functioning civil institutions, political systems, and other necessary components to human development.

A World Bank publication notes the move away from viewing development as purely economic. Citing Amartya Sen, the renowned economist and Nobel

Section 2

4. Owen Barder. CGD on Complex Adaptive Systems <http://www.cgdev.org/doc/CGDPresentations/complexity/player.html>

5. *Ibid.*

6. Barder, Owen. "Complexity—The simple path to success in development" The Guardian Poverty Matters Blog. January 28, 2011. <http://www.theguardian.com/global-development/poverty-matters/2011/jan/28/complex-adaptive-systems-development> Web. Last accessed August 30, 2013.

laureate, the publication notes: “Sen conceives development as ‘the process of expanding the real freedoms that people enjoy.’”⁷ Sen’s landmark book, *Development as Freedom*, defines “development” as:

*“a set of linked freedoms: political freedoms and transparency in relations between people; freedom of opportunity, including freedom to access credit; and economic protection from abject poverty, including through income supplements and unemployment relief.”*⁸ *Through this evolving perspective, we now interpret development as not merely the sum of financial outputs, but also its effects on people.*⁹



Seung Don Kim walks through the Cité Soleil slum of Port-au-Prince, Haiti. Kim is a missionary of the Korean United Methodist Church of South Florida in Fort Lauderdale. A UMNS photo by Mike DuBose

Another significant evolution in the past 50 years in the field of international development is the shift away from understanding development as something that is done to people. Instead, today development is increasingly conceived as something done *with* the people whom development initiatives seek to benefit.¹⁰

The idea of co-creating sustainable development has embraced the entrepreneur as key to lifting communities out of poverty.

Muhammad Yunus, founder and director of Grameen Bank, has helped to popularize the concept of “social entrepreneurialism” and the unification of business principles with social ventures as a mechanism for sustainable development. The social entrepreneurialism movement has in turn promoted an increased focus on the transfer of skills and the development of a market environment that enables people to participate and prosper.

A Shifting Communications Technology Landscape

Today’s mobile phones, even basic “feature” handsets that provide features like Web access but lack the advanced functionality of a smartphone, have more computing power than the Apollo 11 computer that put a man on the moon

7. World Bank. “How-To Notes: Valuing Information: A Framework for Evaluating the Impact of ICT Programs” p. 3.

8. Via Wikipedia: https://en.wikipedia.org/wiki/Development_as_Freedom Web. Last accessed September 19, 2013.

9. Owen Barder CGD on Complex Adaptive Systems. <http://www.cgdev.org/doc/CGDPresentations/complexity/player.html>

10. Pardhan, Sanjay. “Special Report” in *Development Outreach: Open Development*. World Bank. September 2011, p. 4.

in 1969. Innovations in communications technology, and the proliferation of mobile telecom networks and devices, can be a powerful way to bridge the divide in access to essential information and services for those at the base of the economic pyramid. How? A look back at the evolution of the communications technology landscape over the past half-century shows us how ICTs are transforming almost every industry across public and private sectors.

Fifty years ago radio, television and landlines were the dominant forms of modern communications technology. The advent of the cable television news service disrupted modern media by creating a demand for a 24/7 news cycle. In the early 1990s, Sir Tim Berners-Lee created the HTTP protocol-based World Wide Web, which became the most popular way of interfacing with the then rapidly growing Internet. The explosive growth of Internet access and use, in turn, began radically transforming industries, from music to movies and even medical care, by forcing short business evolution cycles.



Malawian Prisca Nethulu receives her first text message sent via FrontlineSMS.
A UMNS photo by Neelley Hicks

By the turn of the 21st century, mobile phone usage had expanded throughout the developed world. Regulation, competition, and the falling costs of hardware together created conditions for the rapid uptake in mobile phone access and use in the developing world. Of the over 7 billion mobile subscriptions in use by 2013, more than two-thirds could be found in developing countries.

The rapid acceleration of technology also led to other major developments, such as interconnected devices and machine-to-machine communications, known as the Internet of Things; algorithm-based analysis of massive quantities of data, known as “big data”; and cloud computing, which enables access to scalable computing power at a fraction of the previous cost.

Taken together, these technologies provide powerful tools that can empower the development community and, importantly, the individuals and communities that development efforts seek to benefit. Already we are seeing the use of ICT for Development, or ICT4D, driving transformational change.

ICT4D: Using Technology for Development

Section 2

To understand how the field of ICT4D has evolved, it is useful to take a brief tour of recent trends in the use of technology for manufacturing. E. F. Schumacher, who in 1973 published the book *Small Is Beautiful: A Study of Economics As If People Mattered*, helped popularize the term “appropriate technology.” He criticized the “bigger is better” mentality of mass manufacturing in industrialism and advocated instead for the use of environmentally sound, small-scale, and locally controlled technologies. His work kicked off an “appropriate technology” movement that reshaped the way products and services were manufactured across Europe and in North America.¹¹

While revolutionary in its impact, the appropriate technology movement has not been without shortcomings. In 2010, Paul Polak, a social entrepreneur who founded a nonprofit that designed and manufactured products following appropriate technology principles, declared appropriate technology “dead.”¹² Instead, Polak announced himself a proponent of “designing for the other 90 percent,” by creating market-driven and low-cost solutions for the vast majority of the world’s population “who have little or no access to [many] products and services.”¹³

As mobile networks sprang up through the developing world, and innovations in technology helped reduce the costs of hardware such as the mobile phone, a perfect storm gathered for the use of new technologies in development.

How ICTs are Transforming Development

How are advances in communications technologies driving transformational change in development?

First, rising access to modern technologies is for the first time connecting millions of people around the world. In many parts of the world, access to a mobile phone is the first connection to a modern communications technology, leapfrogging over landlines, computers, and other technologies that

11. Hazeltine, B.; Bull, C. (1999). *Appropriate Technology: Tools, Choices, and Implications*. New York: Academic Press. pp. 3, 270.

12. PaulPolak.com. “The Death of Appropriate Technology I : If you can’t sell it don’t do it.” Web. <http://www.paulpolak.com/the-death-of-appropriate-technology-2> Retrieved 12 January 2014.

13. Cooper-Hewitt Museum. “Design for the other 90%.” Web. Retrieved 24 April 2011. <http://other90.cooperhewitt.org/about/>

preceded mobile phone access in the developed world. As noted by a United Nations Development Programme report, no other technology has found its way into the hands of so many people in so many places around the world as quickly as the mobile phone.¹⁴

Second, the connectivity this provides is transforming the way many communities gain access to information and services. Studies have linked higher rates of mobile phone access to increased economic growth, and mobile technologies are beginning to positively impact human development.¹⁵ In the agricultural field, a growing number of studies are demonstrating some level of economic gain among farmers who use mobile phones to gain greater access to market data.¹⁶ For millions of people in countries like Kenya and the Philippines, banking through mobile devices is connecting households to formal banking services for the first time.¹⁷ And around the world, citizens and medical professionals are using their mobile phones for a range of services, from text messages that can promote maternal health to mobile data collection and other support for health workers in remote areas.

Third, rising access to technologies is fostering a new relationship between governments and the governed, in which citizens are playing a more active role in information gathering and decision making. As explored in detail in Clay Shirky's book *Here Comes Everyone*, the democratization of technology has put a tool for collective action in the hands of millions of ordinary citizens. Around the world, citizens are using these mobile phones, apps, and access to the Internet to demand increased government accountability and transparency. In India, for example, the "I Paid A Bribe" mobile phone app enables citizens to anonymously report when, where and how they were compelled to pay a bribe.

Governments, too, are leveraging advances in communications technologies to strengthen the bond between government and citizen. "Technologies can be implemented to help governments provide services in ways that set up a more reciprocal relationship," says Laura Walker Hudson, chief executive officer of the Social Impact Lab Foundation. For example, the World Bank and the government of Bangladesh recently piloted a program using a survey distributed by mobile phone to gather citizen feedback on the delivery of government-subsidized solar home systems in rural areas off the country's electric grid.

14. UNDP. *Mobile Technologies & Empowerment: Enhancing human development through participation and innovation*, p 8. <http://www.undpegov.org/mgov-primer.html>

15. *Ibid.*, p. 6-7

16. ICT in Agriculture. <http://www.ictinagriculture.org/sourcebook/module-3-mobile-devices-and-their-impact>. Web. Retrieved 26 September 2013.

17. McKinsey & Co. "Capturing the promise of mobile banking in emerging markets." February 2010. Web. Retrieved 09 September 2013. http://www.mckinsey.com/insights/telecommunications/capturing_the_promise_of_mobile_banking_in_emerging_markets

Another way in which governments are leveraging ICTs to strengthen “social accountability” is by opening up troves of government data. More than 100 governments around the world are releasing data sets that previously were not publicly available. This includes vast quantities of information about everything from weather patterns to health care information. Citizens and technologists are using this data to build, free of charge, mobile apps, online tools, and in some cases profitable companies that ultimately can help improve quality of life. Governments also are using ICTs to monitor the impact of their own work, such as in the example of the U.S. Agency for International Development using mobile phones to survey teachers in Afghanistan.

USAID: Using Mobiles to Crowdsource Data from Afghani Teachers



Switching from cash to mobile payments offers numerous benefits, including eliminating graft and streamlining regular financial transactions such as the payment of government employee salaries. Photo by USAID

Crowdsourcing, or collecting information from a wide group of people, is made easier with mobile technology. For example, in Afghanistan, the U.S. Agency for International Development (USAID) is using mobile phones to survey teachers and ask them how they are currently getting paid and if they would like to be paid in a different way.

“Everyone is talking about big data, but in this case we’re looking at small, project-based data. USAID has a programs budget of over \$20 billion per year, which is largely focused in humanitarian assistance, agriculture and health. We have an opportunity to use technology, including mobile technology, to collect real-time or near real-time data on the progress and performance of these programs. And [we’re using technology] to hear directly from the communities we serve about whether and how programs are fulfilling their needs and wants,” says USAID Mobile Solutions Director Priya Jaisinghani.

“So far we have about 600 people surveyed, and the results are showing that there’s a strong preference to be paid by mobile or by card instead of being paid in cash, which is how most teachers in Afghanistan are paid today. Having this kind of information gives us the impetus to work with our partners [including the local government] to pay civil servants through electronic means,” she says.



The Cité Soleil slum, where Seung Don Kim serves, is one of the poorest areas of Port-au-Prince, Haiti. Kim is a missionary of the Korean United Methodist Church of South Florida in Fort Lauderdale. A UMNS photo by Mike DuBose

Similarly, the development community is embracing the opportunity to leverage advances in ICTs to engage citizens and communities, and to make projects more relevant and sustainable. The World Bank, one of the world's largest providers of financial and technical assistance to developing nations, has a dedicated ICT strategy that goes far beyond working with countries on infrastructure development.¹⁸ In addition to partnering with countries on electronic government and open data initiatives, the Bank is running a series of strategic, yearlong innovation challenges. These challenges engage citizens in identifying local development problems, and then working on technology-based tools to address those problems, such as limited access to clean drinking water or sanitation facilities. Numerous nongovernmental organizations also are beginning to weave the use of ICTs into their programs and operations, including to assist with program monitoring and evaluation.

Rapid advances in ICTs are greatly enhancing the capacity of individuals everywhere to gather information and make well-informed decisions. The World Bank calls this "informational capabilities" and explains that they are:

*"a person's capability to transform his or her existing informational capital (such as access to ICTs and access for the information carried by ICTs), combined with agency into real opportunities in society to achieve the things he or she values doing or being."*¹⁹

18. World Bank. ICT for Greater Development Impact. Web. Last accessed September 20, 2013. http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/WBG_ICT_Strategy-2012.pdf

19. World Bank. "How-To Notes: Valuing Information: A Framework for Evaluating the Impact of ICT Programs" p. 5.

Yet the same report notes that while ICTs are enhancing individual agency through “informational capabilities,” there is still a role for intermediaries, including faith-based organizations, to assist in maximizing the potential of ICTs for development.²⁰ The United Methodist Church increasingly is weaving the strategic use of ICTs into its projects, such as in Thomas, Haiti, where new technologies are being used in a variety of ways as part of the Thomas School Project.

The Thomas Food Project: Feeding Mind, Body and Spirit in Thomas, Haiti



Teacher Sylné Guerdy works with students in the computer lab at the Thomas Food Project in Thomas, Haiti. The program is part of a United Methodist Communications effort to use technology for development. A UMNS photo by Mike DuBose

At a school in Thomas, Haiti, new technologies are fueling a project that feeds the mind, body and spirit.

The Thomas Food Project is supported by United Methodist Church volunteers from the California-Nevada Conference. The project provides an educational environment and a hot lunch program to nourish children in the Thomas community. Project Manager James Lazarre describes how the initiative is putting technology to use:

“First, we’re using a solar system so that we don’t have to buy fuel every day to run a generator. This powers the entire school, including the computer center. In our church, we used to spend money every day just to buy fuel. With the solar panels we don’t have to do that. Second, we are using low-power computers. This means we can keep the computer center open and work all day. This saves us money, which means we can offer more and more services.”

In June 2013, the Thomas Food Project also opened a computer center that is used to teach students during the day and is open to the wider community in the evening. Lazarre explains:

“Our goal with the computer center is to build computer skills in the community. When we started, only about 20% of the teachers in Thomas knew how to use a computer. So we trained the teachers to be able to use computers as part of their teaching.”

Asked about his vision for the future, Lazarre talks about empowering the Thomas community:

“We believe this basic computer literacy will have a big impact on the community. People who previously did not know anything about computers can come to use them to gain access to information and services. We’d like to use the computer center to help the community build professional skills that they can use to develop into economic opportunities. So we’re putting together a business plan to support more job training.”



Thomas Project Manager James Lazarre learns how to use FrontlineSMS on a laptop designed for rugged conditions. Photo by Neelley Hicks

Design Thinking and Co-Creation with Local Communities

Section 3

The rapid spread of ICTs is enabling communities in developing countries to gain increased access to information and services, and it has given rise to a new suite of tools for development practitioners to use *in collaboration* with communities to create efficient solutions to development challenges.

The Rise of Design Thinking

Designing products and solutions based on the needs and desires of end users rose in popularity in the 1960s and 1970s. “Design thinking,” as this approach was called, emphasized the importance of empathy, creativity, ideation and prototyping in product design. In the mid-1980s, Donald Norman published the book *The Design of Everyday Things*, using the term “user-centered design” to highlight the importance of the human end users of products.²¹ Design thinking began being systematically applied to corporate development projects in the 1980s

Design Thinking and Collaborative Design

Design Thinking

Design thinking, “a human-centered, prototype-driven process for innovation that can be applied to product, service and business design,”²² has emerged as a tool to refine products and solutions to be more intuitive to the end user.

Participatory Design

Participatory design emphasizes the importance of the involvement of all stakeholders in solution development. Wikipedia defines it “as a way of creating environments that are more responsive and appropriate to their inhabitants’ and users’ cultural, emotional, spiritual and practical needs.”²³

Design Research

Design research “blends practices from ethnography, journalism, and systems thinking, and helps practitioners understand the cause, relationships, and human dimensions of complex contexts.”²⁴ It also provides tools to incorporate this knowledge into the design of innovative and realistic interventions.

21. <https://ithinkdesign.wordpress.com/2012/06/08/a-brief-history-of-design-thinking-how-design-thinking-came-to-be/>

22. <http://www.gsb.stanford.edu/exed/dtbc/>

23. https://en.wikipedia.org/wiki/Participatory_design#Definition

24. Design Research for Media Development (2013 Internews Report) <http://design.internews.org/wp-content/uploads/2012/12/Design-Research-for-Media-Development.pdf>



A pedestrian makes his way along a street clogged with storm debris following Typhoon Haiyan in Tacloban, Philippines. A UMNS photo by Mike DuBose

and '90s through firms like IDEO, which applied user-centered design to a vast array of disciplines from industrial design to software engineering.

User-Centered Design in International Development

Sean Hewens, knowledge manager at IDEO.org, the nonprofit offshoot of IDEO that focuses on social innovations that reduce poverty, describes user-centered or “human-centered” design as follows:

“Human-centered design is a problem-solving process that puts humans at the very center. There are three key tenets. First, immerse yourself within the community as much as possible [to understand the problem]. You can start very specific with folks in the community. Learn from them as much as possible. Second, you focus on brainstorming and prototyping rapidly. The idea with brainstorming is to go as broad as you can with ideas. Use what you learned from the community and ideate. Third, you get those ideas back out to the community to get feedback from real users as quickly as possible in the form of prototypes. Our early prototypes often fail, but in a way that allows us to iterate and refine our ideas based upon feedback from real users.”

IDEO.org has used its human-centered design approach across a range of development sectors, from water and sanitation to agriculture, health, finance and gender-related projects.

Benefits of Using a Design Thinking Approach

Design thinking supports two components Owen Barder tells us were missing from traditional economic development approaches: feedback and adaptation.

Through collaboration with target end-user communities in product ideation, prototyping and testing, the design thinking approach creates a direct feedback

loop. This enables those building development projects to detect early any misconceptions they may have, either about the project inputs or about the contextual environment in which their project will work. In an article in the *Stanford Social Innovation Review*, Joshua Goldstein writes: “Design thinking is a methodology that can unpack the underlying assumptions that often go unchallenged and unverified during the service preparation and implementation process.”²⁵

The following case study illustrates the importance of design thinking in enabling ideas to be tested early in the project design process:

IDEO.org’s ‘Pump Away’ Project: Prototyping Enables Testing Before Scale

In an interview for the “Best Practice in ICT4D” blog series, Danny Alexander, a senior designer at IDEO.org, recalled the importance of prototyping in a project called Pump Away, funded by the Bill & Melinda Gates Foundation. The project was part of the Gates Foundation’s Reinvent the Toilet initiative, which is investing in technologies to address sanitation challenges around the world.

Danny explained: “Our work on Pump Away was to take one of the technologies they’ve developed—an Omni Ingestor—and develop the business, service and brand for a sustainable pit latrine emptying service in Zambia. The team spent a few weeks on the ground in Zambia, interviewing community members about what the sanitation challenges were. This made things really tangible and enabled the team to prototype quickly, even though the technology is still months, or years, from being finished.

“One of the key criteria for the project was to design a service that would be financially sustainable and that investors would invest in. So we asked ourselves: What kind of a business model will make people pay to use this, and what makes it better than the competition? Could we get a bunch of people to sign up to empty latrines at the same time in the same place for greater efficiency?



Photo by IDEO.org

“To test this idea, we dressed our local translator up as a salesman and gave him an artificial price for this service and then let him loose in the community to see if people would sign up. Within two hours, we had more demand than the technology could even fulfill. Rapid prototyping enabled us to do all of this before anything was built. Testing in this fast, rough way enabled us to prove the concept and understand local demand. We also learned that people were interested in emptying part of their latrine if they couldn’t afford to empty the full latrine each time.

“In the context of ICT4D, human-centered design can help with the design of a technology, and the context around it, long before the technology is ready for launch.”

25. Goldstein, Joshua. “Designing for the Science of Service Delivery,” *Stanford Social Innovation Review*, April 23, 2013. Last retrieved 04/26/13. http://www.ssireview.org/blog/entry/designing_for_the_science_of_service_delivery

Danny Alexander of IDEO.org explains how this local feedback is often missing in international development projects, saying:

“There are a lot of missing feedback loops in social sector implementations. The private sector has a feedback loop, although it may be one-dimensional: do people buy a product, yes or no? But in international development you have projects being implemented thousands of miles away from where decisions are made. Frequently, there’s no feedback loop so it’s hard to say: Is it working, and are people choosing to use this? In these instances you have programs that are not at all sustainable and not having real impact, and yet donors continue to think they’re successful and promote them just because they have been implemented. Human-centered design helps give voice to the community, and ensures design is built around user needs and is sustainable.”

By encouraging early and direct collaboration with the communities that development projects seek to benefit, design thinking can support the development of products with greater local relevance and higher rates of utility, that are more likely to be sustainable over the long term.

Laura Walker Hudson of the Social Impact Lab Foundation notes that a good design thinking approach also entails good systems design. “This means using whatever tool you have in mind in a way that’s effective to achieve your goals. Our goal should no longer be to build new products. The goal has to be to develop and use and build on platforms that communities can use in as wide a spectrum of sectors and places as possible, and then involve them in selecting the right few to create an effective multichannel approach,” she said.

The design thinking approach also emphasizes failing fast or “failing forward” to learn early on what works in order to repeat this at scale. Instead of being shunned, failure is increasingly being recognized as an important learning opportunity that should be shared.

In 2012, Tim Harford published the book *Adapt: Why Success Always Begins with a Process of Failure*, helping to popularize the notion that failure can be a key ingredient to future success. Similarly, beginning in 2010, curators of events called “Fail Faires” began organizing the development community around the principle of sharing failures in the use of technology for development projects, where these failures provide an opportunity to learn and advance the field.

Winning at Failure: UMCom Takes Home the Top Prize at a 2012 Fail Faire



Wayan Vota leads Fail Faire at the World Bank in Washington DC, November 2012. Photo by Adele Waugaman

If 75% of Silicon Valley technology start-ups fail, then is it surprising that a recent evaluation of World Bank ICT projects found a 30-70% failure rate?

With that question, Wayan Vota, standing in front of a photo of the burning Hindenburg blimp—one of the most famous airship disasters—kicked off the 2012 Fail Faire in Washington, D.C. Fail Faires are gatherings all over the world that explore failures in the use of mobile or other ICTs in development.

Katrin Verclas, one of the early Fail Faire organizers, describes how failure can be a valuable part of the development community's learning process. "We recognize that failure in tech and development is inevitable and a part of how a field moves forward when we share and investigate what failed and why," she said.

The Fall 2012 Fail Faire in Washington, one of a number of Fail Faire events held around the world that year, was covered by the New York Times. It gathered speakers from multilateral organizations like the World Bank, charities like the United Nations Foundation, universities like Johns Hopkins, and implementing organizations like Development Gateway. The faith community was also represented by Neelley Hicks of United Methodist Communications.

Each speaker was asked to speak for no more than five minutes about a major failure, and the lessons learned from failure. Hicks described an IT mission to Angola that involved flying in a trainer who arrived late and exhausted after flight delays, and donated computer equipment that promptly shorted on the school's unstable power system. Lesson learned? First, whenever possible, use local technicians to provide training and support. Second, your IT installation will only be as effective as the hardware is appropriate to the local environment.

At the event's close, all of the speakers lined up on stage for a contest, measured by audience acclamation, to see which speaker offered the best lesson learned. The winner, by a groundswell of applause, was UMCom. Hicks' prize? A small, white and green One Laptop Per Child computer.

Design thinking encourages both innovation and selection, creating feedback loops that promote adaptation that is most suitable to the local environment. It also embraces greater experimentation as part of the development process, with firms like IDEO.org regularly putting into practice the process of innovating, prototyping and testing with target users long before products are put into a formal design process. This enables ideas to be tested in a rough, unfinished form, when shortcomings can be identified early and used to strengthen the end product.

Tips for Best Practice in ICT4D

Section 4

Best practices in ICT4D, which sits at the intersection of two rapidly evolving fields, must by their nature continually adapt and evolve to stay relevant. Ken Banks, founder of kiwanja.net and FrontlineSMS, one of the most widely scaled ICT4D technologies in use to date, says that the idea of “best practice” in ICT4D can be misleading:

“A lot of people have opinions on what works in ICT4D and what doesn’t. Just because a particular tool or lesson might apply in one place doesn’t mean it will work everywhere. This oversimplifies the issue of replication, scale and getting things to work in what are often very different environments. The idea of ‘best practices’ almost assumes that there are commonalities that you can apply globally. This may be true in some cases, but it won’t be true in all.”

Yet interviews with a series of experts specialized in various domains of ICT4D revealed common themes. This section is dedicated to capturing those themes in a way that can help inform development practitioners as they seek to integrate ICTs and a human-centered design approach into their projects and programs.

Putting ICT4D into Practice: 10 Tips

The following 10 tips for successful ICT4D implementations are drawn from eight expert interviews that are captured in full as part of UMCCom’s *Best Practice in ICT4D: A Conversation* blog series (<http://www.umcom.org/bestict4d>).

1. Put people first. Development projects, almost without exception, are geared toward improving the human condition. The human-centered design approach to development provides a framework for prioritizing the physical, contextual, and emotional needs of the end user, and encouraging regular dialogue with the target user group in prototyping and testing product ideas.



Survivors of Typhoon Haiyan line up for a food distribution by the United Methodist Committee on Relief in Tacloban, Philippines. A UMNS photo by Mike DuBose

The user community can consist of organizations, individuals, and the larger community, says Kristin Peterson, CEO of Inveneo:

“In the design phase, there are a number of key principles that need attention aside from the technology. It’s not just about the use case but also the users of the technology. You have to understand the needs of the organization you’re working with, but also those of the community and the individuals you want to serve.”

Laura Walker Hudson of the Social Impact Lab Foundation adds:

“[Best practice] isn’t about a preferred tool or approach, it’s about being professional in your application of a business tool. Before you roll it out, test it. Measure its impact and learn from failures, make mistakes, improve your process, and demonstrate impact. Understand organizational change and its drivers. There are absolute tools (and even platforms) that you can apply globally; it’s the approach that needs to be contextualized.”

2. Understand the local landscape. It’s critical to understand the local landscape for the area in which a project is designed and delivered. This includes not just understanding the desires and needs of the people involved, but also their capacity with the tools you plan to deploy.

One solution is to use just the tools that already exist in that environment, says Ken Banks of kiwanja.net:

“Build for what people already have in their hands. It’s critical to understand the hardware and device landscape, particularly which technologies your users have access to and ownership of. Many projects still have this problem—looking at smart phones or other top-of-the-range technologies that don’t work for the people they’re trying to help.”

That said, there may be cases in which the use of advanced technology does make sense, says Katrin Verclas of the National Democratic Institute. She cited the use of smartphone-based mobile data collection projects in which the target audience is not the general public. Understanding your target audience, its capacity and training needs, in this case, is essential.

3. Design using appropriate tools. Once an assessment is done that incorporates the needs, desires, technological access and capabilities of your target user base, begin the process of identifying the appropriate tools for your project. This should consider factors such as the physical environment, the power supply, affordability, and long-term maintenance. For more information, see the text box ‘Five Steps Toward Appropriate Technologies’ on page 23.

4. Prototype, fail, iterate and succeed. For a risk-averse development community, one of the benefits of human-centered design is to mitigate risk by testing early and failing fast, says Sean Hewens of IDEO.org.

“Our ethos is not that failure is good or bad, but that when you learn from it, failure can be a very positive part of the process. You want to try to get some of the failing out early so that you can learn from it and let it influence the design of a better more successful project. You need to ask yourself: Even if the technology is good, how it might fail anyway? For example, is microcredit needed to enable the community to make a necessary purchase? Is training needed to ensure that the technology will be used? You need to figure out all the conditions necessary to the technology being implemented and sustainable.”

5. Build in monitoring and evaluation. A lot of what we know about ICT4D projects is anecdotal, meaning that there is not a good knowledge base of what makes ICT4D projects work and what makes them fail, says Linda Raftree at Plan International, USA. Evaluation is useful both to project managers and the wider field so that other people can learn from you and avoid your mistakes.

“It’s really important to think about M&E at the beginning of the project. If you don’t know where you’re starting from, it’s hard to measure where you’ve gotten to. If your project has already been under way without an M&E component, be reflective on what you’ve already done and where you are: all that learning is really important. It becomes more difficult to do M&E midstream, but there are techniques that professional evaluators can use. It’s never too late to start.”



Andris Bjornson from Inveneo (left) demonstrates the use of a satellite phone for, from left: Ciony Ayo-Eduarte, manager for the United Methodist Committee on Relief in the Philippines; the Rev. Jack Amick, head of international disaster response for UMCOR; and Ermani Celzo, working with United Methodist Communications following Typhoon Haiyan in Tacloban, Philippines. A UMNS photo by Mike DuBose

6. Consider privacy and security. A key ethical perspective to keep in mind in designing any development intervention is the “do no harm” principle that comes from the Codes of Conduct of the International Committee of the Red Cross. Jennifer Chan, assistant professor and director of Global Emergency Medicine at Northwestern University’s Feinberg School of Medicine, says:

“ICT projects have potential for faster, more accurate and wider inclusion of information, but they also present vulnerabilities that can cause risk and potential harm. Information shared using technology can be accidentally misrepresented or interpreted, carelessly distributed without consent, and even intentionally manipulated for a multitude of purposes that are not in line with the good intentions of the ICT project. And there are additional vulnerabilities that lie within the technology itself. But the flip side is that these types of obstacles are frequently surmountable with a good framework for learning, iteration, and revisions embedded in the project.”

This topic is addressed in further detail in Section 5: Building for Sustainability.

7. Enable user feedback loops. The Rev. Betty Musau, United Methodist clergy in the Democratic Republic of the Congo, says using FrontlineSMS to share urgent news updates via mobile phone is changing the way information is shared in the community.

“Instead of waiting for Sunday or Wednesday for an announcement in church, now we use SMS to tell people” about urgent information, such as the need to boil water during a cholera outbreak, she says. As a result, “people are changing their behavior.”

Capturing how a community is responding to access to information or services provided by ICTs can be not only an important component of periodic monitoring and evaluation assessments, but also a means of continually refining a product or project over time.

8. Community is critical. ICT4D projects can only succeed with the buy-in and sustained engagement of the community in which a project is based.

An ICT4D project should do “an amazing job of not only helping people do their work better, but [also to] feel better about themselves,” says Ken Banks. “It [should] empower and encourage. Tools need to engage, entertain and connect with the user on multiple levels.”

In addition to providing an important feedback mechanism for project adaptation over time, community engagement can provide a technical and support mechanism that can contribute to project sustainability over time.

9. Build for sustainability and scale. All of the tips on this list can promote project sustainability and scale. However, there are some additional common

mistakes that development groups make in implementing ICT4D projects that can lead to limited project uptake or failure.

In her interview, Priya Jaisinghani of USAID lamented the limited reuse of technology tools and platforms by the development community.

“We’re seeing that there’s not a lot of clarity about how best to procure ICT4D solutions. There’s also a lack of awareness in the development community about existing solutions. A lot of partners are building their own solutions, which leads to reinvention rather than existing solutions really scaling,” she said.

In his Top 10 list highlighted on the *ICT4D Best Practices* blog, Banks also lists tips for sustainability and scale:

- **If your product needs an installation guide, that’s a barrier.** When ICT4D tools are developed, there are often things that need to be plugged in, connected or configured. Any installation process needs to make sense to people—especially people who need convincing that they can do it themselves. If people can get a tool to work on their own, they often feel incredibly empowered.
- **Projects have to be sustainable, but by charging users you often put barriers up to adoption.** The target users of your ICT4D tool may not be able to pay or have a mechanism to pay. Good business models in the field are few and far between.



Much of the existing telecommunications infrastructure in Tacloban, Philippines was shredded by Typhoon Haiyan. A UMNS photo by Mike DuBose

“Payment for SMS or data isn’t a dealbreaker,” adds Laura Walker Hudson. “The incentives just have to be in place for people to feel it’s worth it. For example, market price interventions often run on a subscription basis (which makes them sustainable), but people feel the fees are worth paying because they see their incomes increase.”

- **If you need to fly in and out to carry out installation, you’re going to struggle to get to scale.** For ICT4D projects to scale, you need replication on the ground by users to other users. If users can share, learn, and replicate among themselves, there’s a chance you’ll get a viral effect. Some projects try to generate a degree of financial sustainability by creating a need for users to draw on paid services—but for many this becomes a barrier.

10. Don't lose sight of the bigger picture. Technology can help amplify the impact of development programs, but it should always be placed in context as one tool among many that can help address a development problem.

“People often get carried away with the technology, so much so that it can be easy to forget why you started doing what you were doing in the first place,” says Ken Banks. “Ask yourself every day why you’re doing what you’re doing, and whether it gets you any closer to that wider goal. Looking to simply build a cool app isn’t likely why you got started. Keeping the big picture in mind, and the challenges you’re looking to help people overcome, reminds you to stay focused.”

Using SMS for Community Development: Betty Musau’s work in the Democratic Republic of the Congo



The Reverend Betty Kazadi Musau of the Democratic Republic of the Congo. Photo by Ronny Perry.

The Rev. Betty Musau of The United Methodist Church talks about how cell phone technology is strengthening communications and transforming communities in the Democratic Republic of the Congo, where she is a United Methodist Church conference communicator.

“The information comes from the bottom to the top, and the top sends back information,” Musau says, describing how a text message-based tool is changing the way information is shared in her community.

“Instead of waiting for Sunday or Wednesday for an announcement in church, now we use SMS to tell people” about urgent news using FrontlineSMS, she says. “When information comes from one district, I help the district superintendent to spread the information in different districts so that [others] may know what is going on.

“This is really new, and it happens when there is network coverage,” she says.

What happens as a result of increased community communications via SMS? “People are changing their behavior,” such as by boiling water after receiving text message alerts during a cholera outbreak, or by sleeping under bed nets to prevent malaria.

“Cell phones are the only means of communication that are effective because people don’t have access to the Internet,” Musau says.

What’s her vision for the future? “If every woman can have access to a cell phone, it will save lives and transform the community.”

Section 5

Building for Sustainability

What factors contribute to ICT4D project sustainability? Certainly, both technological and non-technological factors play a role in ensuring an ICT4D project's efficacy and longevity.

This section addresses some common technological components of sustainable ICT4D projects adapted from the appropriate technology movement. It also covers non-technological sustainability factors, such as privacy and security and monitoring and evaluation, that have not yet been explored in depth in this paper.

Building ICT4D Project Using Appropriate Technology

While the “appropriate technology” movement has since been overtaken by new trends like user-centered design, some key tenets remain valid. This section provides an overview of how to use context-appropriate hardware and provides a link to where you can find tools that have been reviewed and rated for ICT4D implementations.

UMCom commissioned Inveneo to test, rate, and recommend IT equipment that can be used in the environments where many of its ministries reside. The final report, *Shop UMC Product Evaluation Report*, evaluates some of the top products on the market, including desktops, laptops, tablets and peripherals (such as monitors and projectors). These products are evaluated by criteria including:



All recommended products are available from the UMC Shop at www.shop.umc.org at a discount to local United Methodist churches.

Building for Privacy and Security

In her interview as part of the *Best Practice in ICT4D: A Conversation* blog series, Dr. Jennifer Chan, a fellow at the Harvard Humanitarian Initiative at the Harvard University School of Public Health and assistant professor and director of Global Emergency Medicine at Northwestern University's Feinberg School of Medicine, provided her perspective on the importance of ethics in ICT4D projects. While she spoke primarily to her crisis-mapping

Five Steps Toward Using Context-Appropriate Hardware in ICT4D Projects

Once you've done needs assessment and understood the local landscape, including the needs and technological capabilities of community and key stakeholders, from a hardware perspective there are five factors you will need to consider. These are taken from an interview with Kristin Peterson, former CEO of Inveneo, as part of the Best Practices in ICT4D: A Discussion blog series.

1. *Does my technology need to be ruggedized?* In many developing countries technology needs to be robust. It has to be survivable in challenging environments with dust, heat and humidity.
2. *Is my technology low power?* Many rural areas and even some urban areas in developing countries have issues with power. Power can range from unreliable, where there is grid access but power may be intermittent, to unavailable where there is no traditional power at all.
3. *Is my technology adapted to the local environment?* Beyond building for a low-power solution if needed, you need to understand what will be supportable and survivable over the long term, which requires an understanding of what power exists, how stable that power is, and what will be needed to operate that system on a regular basis. This also includes an understanding of the mission of the project or organization. If you're designing technology for a school that needs to be open eight hours a day for students, and then four hours at night and four hours over the weekend, then you have to design a power system that will enable regular powering and consistency of use to meet that demand.
4. *Is my technology affordable?* An ICT4D program should consider affordability in both the short term and the long term to be able to deliver a highly sustainable solution. The technology needs to be cost efficient and appropriate across the lifecycle of its use.
5. *Is my technology locally supported?* Remember that technology frequently is just 10% of the solution. Once the technology is implemented, no matter how sustainable it is, you will need to have a technology management and support plan that supports users in that environment. Identifying and training, as needed, local support that can come in to fix things and provide regular maintenance on an ongoing basis is crucial to long-term project success.

experience in environments that are unstable or politically fraught, her insights are important to consider in non-conflict settings as well.

“I've worked in high-tech, low-tech and near-no-tech settings, and this has pushed me to continually think about and re-explore the relationship between information, privacy, security and ethics. As a researcher and consultant I've worked with NGOs and other agencies to help them strategically and programmatically integrate ICT into complex humanitarian situations, including disasters, conflict settings, and drought-prone regions. This work has included work on when [the use of technology] is appropriate, and how it is safe to use,” she says.

Since a concise, practical and widely accepted set of ethical guidelines and best practices that take into account principles, standards or guidelines has yet to be developed, it is up to the organization implementing the ICT4D program to use its best judgment in building an ethically sound project or program.



A cell tower in a rural area of Bangladesh, where 70% of the population has an active mobile subscription. Photo by Adele Waugaman

One of the most important aspects of providing a sound ethical construct to ICT4D projects is acknowledging that access to information in many cases means access to power.

“Working with technology, it is helpful to recognize and accept the tenet that access to information is related in many ways to power. Understanding that first is key. Beyond thinking about how technology can influence a project’s design, organizations should seek to understand the existing information ecosystem by asking: What decisions would be made, or how would behavior change, on the basis of the information gathered with technology? Where are the vulnerabilities of information collection, sharing and communication that exist with the intended users and beneficiaries of the project, and with the technology itself?”

This means organizations need to assess how information that is gathered and used as part of an ICT4D deployment relates to privacy, risk and harm. Chan recommends following a user-centered design approach, and including target users in this discussion in early stages of the project.

“It’s critical to engage stakeholders at the local level to understand what is important to consider when it comes to information and privacy. Ideally, you would reach out to all of the people in the information ecosystem. You would ask local communities: This is what we’d like to do, what do you think about it? Find out what people’s feelings are. Is this ability to share information beneficial or uncomfortable to them? These conversations become telling about whether there are under-recognized or unanticipated challenges.”

This requires extra steps, planning and budgeting that too frequently organizations fail to account for.

“On the design side, organizations need to be mindful of the various planning phases and how much time it takes to understand the information security and privacy context. There needs to be an assessment at the country level of what information and privacy guidelines need to be considered. In addition, organizations should outline steps for the project, ask stakeholders to recognize and abide by codes of conduct, and link these activities to ethical principles that relate to ICT as well as to the organization’s mission.”

Particularly for ICT4D projects in sensitive environments, Chan recommends mapping out information communications systems, and then building in a vulnerability and risk model that engages the community in this process to make this a participatory practice.

“Once you have this framework, then challenge the assumptions around the risk model. Could there be risk in collecting information by itself, even in an offline environment? Having this framework facilitates community engagement, and allows analysis at both global to local levels. Scenario planning is important from a programmatic design standpoint. Whether you’re using FrontlineSMS or another ICT platform, scenario planning and simulation are valuable to understand vulnerabilities, risk, and unexpected privacy issues. It also can demonstrate how much time is required to start—often much more than people realize.”

Reference Materials on Ethics in ICT Projects

For more information about best practice in privacy and security in ICT implementations, see:

Chamales, George, Lea Shanley, and Aaron Lovell. *Towards Trustworthy Social Media and Crowdsourcing*. The Wilson Center, Washington, D.C. 2013

Collaborative Learning Projects. *The Do No Harm Handbook* (the framework for analyzing the impact of assistance in conflict). Collaborative for Development Action, Inc., Cambridge, MA. 2004.

The International Committee of the Red Cross. *Professional Standards for Protection Work*. 2013 Edition. Ch. 6, p. 77.

Building for Monitoring and Evaluation

Monitoring and evaluation in ICT4D projects is not just important for project management and improvement; increasingly it will be a survival tool for traditional humanitarian and relief organizations, says Priya Jaisinghani, who heads the Mobile Solutions team at USAID, one of the largest funders of development activities globally.

“Larger traditional organizations focused on humanitarian relief and assistance need to prove that they are as or more effective than just giving money directly or to local partners. If you don’t have the systems in place to track and prove impact, and to get funds flowing directly to these communities, then you risk being left in the wake. I don’t mean to be alarmist, but I do think big development organizations can’t stay still. In part due to the way information can now be collected through advances in ICT, increasingly there will be a litmus test in the development space. Donors will ask: Should I really give money to a large organization, or should I just give it directly to a local partner? So it will be incumbent on large development groups to be laser focused on impact, best practices [and] ability to track in real time what their performance is. ICT can enable and empower these efforts.”



Victor Joassaint, 62, works in construction with Haiti Artisans for Peace International in Mizak, Haiti. A UMNS photo by Mike DuBose.

In addition to the opportunity cost of *not* implementing a monitoring and evaluation program, there are also tremendous benefits that technology presents for monitoring and evaluation work, Priya adds:

“The opportunity is huge. Technology can make monitoring and evaluation work faster, cheaper and of higher quality because of the reduction of human error involved in transforming data collected manually into an electronic system. It’s important for large organizations with offices around the world like The United Methodist Church to think about the design and policies around the M&E systems.”

Linda Raftree, senior adviser for Innovation, Transparency and Strategic Change at Plan International USA and special adviser on ICT and Monitoring & Evaluation at the Rockefeller Foundation, has thought a good deal about the monitoring and evaluation of ICT4D projects.

“The systematic monitoring and evaluating of ICT-enabled development projects is still relatively new. Monitoring is important because it can go a long way to helping you figure out what’s working and what’s not working. Monitoring can help you establish a framework through which you ask: What is my program trying to achieve, and what are the small steps I’ll measure along the way to ensure I’m on the road to achieving my project goal?” she says.

She notes that the growth of ICTs is helping to make monitoring and evaluation processes more inclusive by providing new channels to engage critical audiences, such as the communities that projects seek to serve.

“What ICT is doing for M&E is really broadening it out and allowing more people to participate. It also allows project managers to analyze data better and to make decisions more quickly. New ICT tools can make monitoring faster and more accurate. Using mobile phones can also help you reach out to a wider group and get feedback from the communities you serve. Some of the new ICT-enabled visualization tools, including maps, graphs and charts, make it easier to analyze the data you collect and share it back to the community.”

She notes that with increasing access to mobile phones comes the ability not just to use text messaging or interactive voice response tools to survey communities, but to use the cameras built into mobile phones to take before and after pictures, to have people share ideas about a project, and to draw out insights from a project.

While ICTs such as data visualization tools can help people make better use of data—and better-informed decisions about framing and refining the kind of data to collect in the first place—Raftree notes that we’re still at the beginning of using ICT for M&E and we have several big challenges before us.

“One of these challenges is that we’re collecting a lot more data than we’ve ever collected before. We’re not always collecting the most useful data or headquarters may be asking for data that is unnecessary. This can be a burden to people on the ground if the data is not actually used.

“Another stumbling block comes around the sharing of M&E data. We haven’t completely cracked this one yet, but we do know there would be value in trying to collect information that could be comparable across different organizations. For example, data collected as part of a large mosquito bed net distribution campaign could be useful to the organization conducting the campaign and to the Ministry of Health. A lot of organizations are not thinking about this and checking which other organizations might have similar data needs before starting.”

Laura Walker Hudson of the Social Impact Lab Foundation adds that it's important to remember to measure and evaluate the effectiveness of ICT interventions where the target audience is internal to the organization, such as in projects designed to improve organizational efficiency and effectiveness, as well as ICT intervention where the target audience is external to the organization. For example, she says, "If it's [a project to improve] coordination and managing staff and information using SMS, people rarely measure impact—but they do if they are sending health message to new mothers using SMS."

Finally, it's important to keep in mind that using ICT for monitoring and evaluation is not necessarily cheaper when you start out, notes Linda Raftree. It requires a thoughtful process to change from paper to mobile. It's also important to be mindful that this is a behavior change process and must be managed properly. People may feel threatened or think their jobs are going to be eliminated. Let them know what's going on, and make sure they feel confident and well trained.

"For organizations that are new to M&E, it's also important to be clear from the start about how the data and reports collected are going to be used. You don't want to generate a lot of reports and then put them in a drawer. So think from the outset how an M&E program is going to influence future decision-making and program design. This can help you identify what data to collect, and ensure your organization, project or initiative can change according to what you learn."

Reference Materials on M&E in ICT4D Projects

Linda Raftree has written a number of excellent blog posts about the use of ICT for monitoring and evaluation, including:

- Twelve Tips on Using ICTs for Social Monitoring and Accountability
<http://lindaraftree.com/2012/08/09/tips-on-using-icts-for-social-monitoring-and-accountability/>
- The Benefits and Barriers of ICT-Enabled M&E
<http://lindaraftree.com/2013/04/17/benefits-barriers-and-tips-for-ict-enabled-me/>
- Ten Tips on Using ICTs for Qualitative M&E
<http://www.ictworks.org/2012/10/22/10-tips-using-new-icts-qualitative-monitoring-and-evaluation/>
- Eleven Ways to Strengthen Local Capacity to Use new ICTs for M&E
<http://technologysalon.org/2012/09/11-ways-to-strengthen-local-ca.html>

Conclusion

The ICT4D field has evolved rapidly in recent years, propelled by the proliferation of mobile phones in the developing world, falling costs of hardware, and tremendous innovation coming from all corners of the globe.

United Methodist Communications, as part of its mission to strengthen and amplify the work of the people of The United Methodist Church, has launched a new ICT4D program dedicated to transformative communications—activities that leverage modern communications technologies to empower individuals and communities, and enable the human spirit to flourish.

Under this program, UCom is forging new partnerships, building the ICT4D capacity for global connection and the broader community of practice, and catalyzing the use of ICT4D projects.

This discussion paper is the first publication by UCom’s ICT4D Church Initiatives Program as it looks to orient United Methodists to how ICTs can enhance and amplify their development work.

We invite you to join the discussion at <http://www.umcom.org/bestict4d> and to attend the September 3-5, 2014, UCom ICT4D conference, “Game Changers Summit,” at the Gaylord Opryland Hotel in Nashville, Tennessee. Further information about the conference, including materials available online for those unable to attend in person, will be available at www.umcom.org/global.



Students work in the computer lab at the Thomas Food Project in Thomas, Haiti. The program is part of a United Methodist Communications effort to use technology for development. A UMNS photo by Mike DuBose.

Section 6



COMMUNICATIONS

United Methodist Communications

THE UNITED METHODIST CHURCH