Best Practice in ICT4D: A Conversation

A discussion of good practices in the use of information and communication technologies in international development

Five Steps toward Designing Context Appropriate ICT4D Projects: An Interview with Kristin Peterson, CEO of Inveneo

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Kristin Peterson is Co-Founder and Chief Executive Officer of Inveneo, a nonprofit social enterprise that delivers sustainable computing and broadband in the developing world. With the goal of transforming lives through better education, healthcare, economic opportunities and emergency relief, Inveneo and its partners have delivered projects in over 25 countries

and impacted the lives of over 3 million people in some of the poorest and most challenging regions in the developing world. Kristin was named Schwab Foundation Social Entrepreneur of the Year in 2013, and honored in 2011 with the ITU World Telecommunication and Information Society Award for her work connecting rural areas.

Q: What factors do development practitioners need to keep in mind when designing ICT products and projects?

A: 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.

Here are five things to keep in mind in designing an ICT4D project:

#1: Needs Assessment

The first step is to start with a needs assessment. Engage with the project participants who will use the technology, and with the community that will be served. Learn their issues and their needs so that you can design a technology solution that fits.

For example, if you're a local church in the States looking to start up an ICT4D program abroad, start by working with your peers in that location to understand what the profile and needs of that community are. Is this community agricultural or urban? If you're working with a peer church in rural Nigeria where 90% of the community members are farmers, then you'll probably want to build a program that addresses how to get out better information for farmers.

Once you understand the needs of the community, then you can start thinking about which assets the team can bring. Ultimately this is about getting the technology to serve the community, and enabling the community to gain improved access to information.

#2: Understand User Capacity

Second, you need to understand the capacity of the community to absorb that technology. This will enable you to consider capacity building is needed to build technology adoption.

For example, if you're going to build a community center where you want to use shared computing or tablet access as a means of providing information to that community, you need to ask: What is the level of familiarity with using these technologies? With using the Internet? You need to consider user ability and agility in deciding which technologies to use, and how to build user capacity.

If you're building ICT solutions for a school environment, consider how the teachers and the

administrators will become familiar with the technology. How might they integrate the technology into day-to-day lesson planning and education/classroom delivery to make the desired impact? How do you build that adoption process, the training, capacity building, and integration, into the technology program you are designing?

It's also important to look at the community's needs independent of what tech can do.

#3: Appropriate Technology

Once you've done those things, then you're ready for the third step: identifying appropriate technologies to create a solution set. From a technology standpoint you need to look at a number of items.

First, what is the appropriate physical or hardware technology to use in a setting? In many developing county settings the technology needs to be robust. It has to be survivable in challenging environments with dust, heat, and humidity.

Second, it needs to be low power because 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.

To consider how your technology will be powered requires an understanding of the physical environment that the technology will be implemented in. You need to know 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.

Finally, you need to design around the mission of the project or organization. If you're designing technology for a school that needs to be open 8 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: Affordability

Affordability is key to successful ICT product and program design in development projects. Power can be a very expensive component in implementing technology, so use of low power computer screens, servers, and tablets (which already are lower power solutions) is important.

You need to remember that you are designing across the lifecycle of the technology's use, and think about the affordability both in the short term and the cost of ownership overall.

Once you understand the physical and power situation, then you have to look at affordability

both short-term and long-term. You need to be able to design a highly sustainable technology solution from a power, physical, and usability standpoint. Your solution needs to be adaptable in the situations it is designed for.

#5: Support and Integration Plan

Even once you've got appropriate and affordable technology factored into your project design, there's still more to do. Remember that technology frequently is just 10% of the solution. Next you'll need to look at building a solution that meets the needs of the organization you are serving.

You need to ask: How will the technology be implemented, and how can local capacity be built around using the technology and integrating it into that setting? What training can be providing to build familiarity and confidence with the new technology? How can you build local capacity to integrate the technologies into everyday activities?

Once the technology is implemented, no matter how sustainable it is, you need to have a technology management and support plan that supports users in that environment. You'll need to identify local support that can come in to fix things and provide regular maintenance on an ongoing basis.

One last thing around the technology: When implementing technology systems, you need to think about how to minimize maintenance and support issues. For example, when you're implementing a computer lab or a tablet program, how do you ensure that those computers and tablets that will be used by novices cannot be erased or ruined by viruses? It's really important to look at how that can be done in a way that enables optimum use of the technology but also keeps the system easy to use. Tools like Deep Freeze on a desktop or tablet can help ensure that it can be returned to its original format.

Once you've taken these steps, then you can determine whether technology can help you take your program to a new place.

Q: You've worked with UMCom on several projects now, including building two computer community centers in Haiti, a grants program, a workshop and site assessments. What is the significance of an entity like The United Methodist Church taking a strategic approach to the use of ICT as part of its work on development related initiatives?

We're really excited about our work with UMCom around the world and the impact that it is making on peoples lives – and we're just beginning!

Through its mission efforts, UMCom's reach and resources are vast. Moreover, UMCom is taking a strategic and practical approach to community development. When combined with

technology, this can truly make impact on a global scale.

By designing an approach to local community development that works with local churches and Methodist aligned schools as community development hubs, and by using the right sustainable technologies, UMCom can strengthen community coordination and improve access to information.

In many countries, Methodist universities can be engaged to design and deliver locally relevant programs for these centers. And by recruiting and training volunteers to support these centers in strategic ways, UMCom can serve as a catalyst for the effective use of ICT to meet local community needs.

Now imagine if this is done not once, but a thousand times using the same approach, the same technologies and only differing the designs based on communities needs. By doing this, UMCom can enable United Methodist churches, schools, and volunteers in mission to become more powerful agents of change throughout the world.

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For a detailed guide about the use of ICT in low-resource environment, see the Inveneo primer on that subject available here.

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3 THOUGHTS ON "FIVE STEPS TOWARD DESIGNING CONTEXT APPROPRIATE ICT4D PROJECTS: AN INTERVIEW WITH KRISTIN PETERSON, CEO OF INVENEO"

tmarente
on **June 24, 2013 at 3:40 am** said:

Very nice piece and a nice framework to consider during project discussions.

Mahamadi ROUAMBA
on **June 25, 2013 at 1:21 pm** said:

Hi,
This blog is a very good initiative. Very good article. I wrote an article on six characteristics of ICT for Development in French http://bit.ly/1479vPv . I invite you to read it. Regards

Joosselin
on **July 10, 2013 at 10:45 am** said:

Hi to all,
This is a very good initiative but how can you learn more from how to implement this in our own country ?
We are doing some think like that now in Cameroon and Central africa.
you can check this : http://www.yocanetcm.net
https://www.facebook.com/cybervillage.ticafrica
https://www.facebook.com/all.inone.3979
We focus on technolgy transfert, because without master technlogies, nothing is possible. That is why we share this. but is will be good have best pratice material from inveneo.
Looking forward.
Regards
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