

Technology is Not the Answer by Kentaro Toyama

Technology is not the answer.

That's the conclusion I came to after five years in India trying to find ways to apply electronic technologies to international development. I was the co-founder and assistant director of Microsoft Research India, a Bangalore computer-science lab, where one of our objectives was to research ways in which information and communication technologies could support the socio-economic development of poor communities, both rural and urban. (By the way, I'm grateful to Jim Fallows for the opportunity to guest post! It was in Bangalore that I met Jim, thanks to an introduction through a good mutual friend, The Atlantic's deputy editor Scott Stossel.)

In one of our early projects, we worked with a rural sugarcane cooperative a few hours outside of Mumbai. They had a network of village personal computers that allowed the cooperative to report sales results to farmers. To reduce costs, we experimented with a mobile-phone-based system that replaced some of the PCs. Our system was faster, cheaper and better liked by farmers, but when it came time to expand the pilot, we were stymied by internal political dysfunction at the cooperative.

In several projects to design educational technology for schools, we found that teacher and administrator attitudes were the real keys to success. Then, when we connected low-income slum residents with potential employers, limited education and training posed critical barriers. And again, when we used gadgets for microfinance operations, a capable institutional ally was indispensable.

Our successes were due more to effective partners, and less to our technology.

In project after project, the lesson was the same: information technology amplified the intent and capacity of human and institutional stakeholders, but it didn't substitute for their deficiencies. If we collaborated with a self-confident community or a competent non-profit, things went well. But, if we worked with a corrupt organization or an indifferent group, no amount of well-designed technology was helpful. Ironically, although we looked to technology to attain large-scale impact into places where circumstances were most dire, technology by itself was unable to improve situations where well-intentioned competence was absent. What mattered most was individual and institutional intent and capacity. (If you're experiencing déjà vu, Eric Bonabeau expressed very similar sentiments about cyber-security two weeks ago.)

As I wrote and spoke about this lesson publicly, I received two kinds of feedback. Some people didn't agree that technology only amplified. They would say, "The Internet makes new things possible -- without it, how else could \$10 million have been raised for Haiti just through text messages?" I still feel this can be explained as amplification (as Max Fisher of The Atlantic explains), but even if not, I'd propose that between technology and human intent, intent matters more. The purposes to which the technology is put depend first on the right intent and capacity.

The second class of feedback went in the other direction: It nudged me to generalize beyond the developing world and beyond electronic technology. Let's consider, for example, poverty and technology in the United States. The rate of poverty in America

decreased until about 1970, but it has since held steady at an embarrassingly high 13-14% only to rise in the recent recession. Since 1970, we've also had a boom in digital technologies from the PC to the iPhone, from Google to Facebook. If these technologies are solving social ills as social-media cheerleaders would have us believe, then we'd hope at the very least that in the golden age of innovation in the world's most technically advanced country, all this technology would have put some dent in poverty.

It hasn't. And, the theory of technology-as-amplifier explains why: As a society, we haven't been so intent on eradicating poverty, as much as perhaps, on ever cleverer ways to guide us to the nearest cup of coffee. The technology is incredible, but our intent is not there.

It's not just electronic technologies that we place undue faith in. We also expect too much from other technologies, institutions, policies and systems, or "TIPS" to coin an acronym. Like the tips of icebergs, TIPS are the most visible part of cultural change and public policy, but they are dependent on the much more significant, if invisible, bulk of individual and societal intent and capacity. Current events are constant reminders of this.

For instance, Japan's nuclear reactor challenges brought global energy concerns to the fore. The proximal cause of Fukushima's troubles was a natural disaster beyond human control, but a deeper issue is that with ongoing growth in population and consumption, the world is nearing the ceiling on established sources of energy. Technology promises to raise the ceiling, but in doing so, it only increases our intent and capacity to consume more. On a finite planet, the very desire to consume still more is itself the problem. Until we tame that intent within ourselves, technology at best postpones crises. It doesn't banish them.

The uprisings in the Middle East call attention to the institution of democracy. Analysts have noted that with the Egyptian revolution over, the country now begins the more challenging task of establishing a working democracy. Meanwhile, American hesitation to support rebellions in Tunisia through Libya underscores our own doubts about democracy. The lessons of Zimbabwe, Bosnia, and even Iraq weigh on us. The institution of democracy, per se, is far from a guarantee of national stability or of anyone's well-being. Institutions, too, must be undergirded by the right intent and capacity among stakeholders.

Finally, there are the waves of news about increasing inequality in America. Capitalist policy and the free-market system excel at feeding consumer wants, investor wealth and entrepreneurial ambition. But, they do more for the well-connected and the well-educated, thus amplifying underlying social differences. As Robert Reich articulates in his book *Supercapitalism*, a laser focus on economic efficiency leads to a system that neglects other values we care about as citizens and communities, be it equal opportunity to a good upbringing, a thriving local economy of mom-and-pop shops, or separation of wealth and state. Adjustments to policy and system are needed, but the will to implement the right ones depends on our own balance of desires as consumer-citizens.

I'm not saying that TIPS aren't important. Technologies can enrich lives; democracy can be preferable to dictatorship; and market capitalism can be an equitable economic engine, no doubt. But, we fetishize technocratic devices and forget that it's our finger on the "on" switch and our hands at the controls. Something other than TIPS still demands attention -- something I've so far called good "intent and capacity," and what in future posts I'll call virtue.