**IT Think Paper: An Innovation Framework**

Edward G. Happ, IFRC, Global CIO

September-December, 2013 – Revision 7

## *"We need to invent within a channel"* –Walter Cotte

## *"If we manage innovation, does it remain innovation?"* –Jagan Chapagan

This paper is a companion document to the “Local Innovation, Shadow IT and World Disasters” paper prepared for the GSMT August 7th, 2013 agenda item on application “Developments in the Americas.” During that meeting, Walter Cotte called out the need for an innovation framework to provide the rationale and process for piloting and harvesting the best ideas in the organization regardless of where they occur.

As the Outcomes document for the GSMT meeting stated[[1]](#footnote-1):

1. *“All instruments [i.e., application technologies] should be coordinated, and we need a framework for innovations including clarity on processes for piloting, reviewing and scaling up. This requires standards at the base, flexible applications in the middle and adaptable NS/country applications at the top (“Bamboo” theory[[2]](#footnote-2));”*
2. *“Related to above, we need to manage innovations and creativity to avoid chaos and redundancies. In the meantime, if we seek to manage innovation too tightly, will it remain innovative?”*

# The Problem

The problem we are seeking to solve with this framework is twofold:

## Recognizing the needs for more innovation and to leverage local applications, the GSMT asked for a framework for innovation at the Federation.

## We need to filter a growing set of technology applications, devices and ideas on the one hand, and growing set of user needs on the other.

# Three Types of Innovation[[3]](#footnote-3)

Clay Christensen, a professor at Harvard Business school and one of the most recognized researchers on innovation, has postulated three types of innovation in organizations (for the following, it may be useful to think of programs in the non-profit sector).

## Empowering (or disruptive) innovation – “*transmutes complicated and costly products available to a few into simpler, cheaper products accessible to many” “creating new markets and wreaking havoc within industries” (e.g., Ford Model T car)*

## Sustaining innovation – *“replaces old models with new products that often incorporate new technology and novel design features.” “making things incrementally bigger, more powerful, and more efficient” (ex. Toyota Prius)*

## Efficiency innovation – *“makes existing products more proficiently” (ex. Lean production)*

## Some interesting points can be made about Christensen’s observations:

## First, o*nly disruptive innovations create new jobs*; sustaining innovations are typically “status quo” for the resources of an organization;

## second, *efficiency innovations typically mean a loss of jobs,* as fewer resources are required to get the work done. In addition, efficiency innovations may often not be wholly new ways of working or product/program delivery, but rather a form of incremental-ism.[[4]](#footnote-4)

## Of the three types of innovation, disruptive innovation is the one with the most promise and most surprise[[5]](#footnote-5). What is more likely to render traditional Humanitarian programs obsolete may be thinking the other two innovations are the progressive applications of technology. They are important, but not innovative enough in the larger scheme of things.

# What are we trying to optimize?

As with most complex problems, we are seeking to optimize multiple factors, making trade-offs between what may in some cases be competing objectives. Three goals for an innovation framework for a humanitarian organization may be:

## Thinking outside the box; engaging the creativity of our people

## Investing small amounts for big returns

## Delivering new programs/services that demonstrate impact and scale

## *In short, we are seeking to engage our creativity to maximize supply and minimize constraints.* The question is how do we do that on a tight budget?

# Models of Innovation

The work and observations on innovation over the past few decades may be seen in terms of models that optimize the supply and demand of new products. We are proposing six lenses, if you will, with which to look at how organizations are capitalizing on innovation. In each of the following models, we note factors of:

## Supply side – *the aggregation of solutions (applications, ideas)*

## Demand side – *the aggregation of needs*

## Capacity side – *the ability to deliver on needs and solutions*

We also note the primary strategy in each and the problems or issues each may have.

# *1. Traditional, top-down innovation*

This model of innovation is the typical approach to developing new products and services in an organization. It is the model we have historically followed in IT: assess user needs, build/buy and install a solution, and accumulate a portfolio of applications over time. The key constraint or filter is the size of the IT team and budget. As a portfolio grows, it becomes harder to fund and deliver new applications as more of the time and budget is spent on operating and upgrading existing applications. A confounding issue is that simply growing the IT budget and staff does not fully solve the problem, as the overall team’s capacity—on both the IT and business sides—is limited in terms of the number of large projects that can be simultaneously managed.



# *2. Discovery innovation, an inverted model*

The Discovery model flips the development funnel and looks for applications already being developed on the front lines of an organization[[6]](#footnote-6). This is the “Discover and Harvest” approach I’ve advocated for our technology catalogue of National Society applications. The bet is, as Jerry Sternin aptly said, “somewhere in your organization, groups of people are already doing things differently and better. To create lasting change, find these areas of positive deviance and fan the flames.”[[7]](#footnote-7) This model is good for front-line applications, but is not a likely candidate for enterprise applications or data[[8]](#footnote-8). It is difficult to imagine each office developing their own finance system, for example.



# *3. Disruptive Innovation, Christensen model*

As noted above, Clay Christensen has written extensively on innovation, especially disruptive innovation[[9]](#footnote-9). The upcoming paper from the International Civil Society Center looks at the role that disruptive change is playing in international nonprofit work.[[10]](#footnote-10) The disruptive part of this model of innovation is that it breaks the normal chain of development, bypassing the internal structures of delivery. Disruptive solutions often appear to initially be of lower quality and unattractive to the business models of incumbent organizations. Yet they have time and again blown past traditional models and are difficult if not impossible to catch up to afterwards. Witness the corporate cases of Kodak, Blockbuster and Borders Books, once leaders in their segments. Such forms of innovation require a constant vigilance and humility to recognize early.

# 

# *4. The R&D lab, corporate model*

The research and development model is the traditional approach of large corporations. Recent research shows that European corporates spend 4% of revenue on R&D, while in North America, the figure is 5%[[11]](#footnote-11) As one point of comparison, the typical INGO spends 2% on information technology, the majority of which are people, maintenance and operational expenses.[[12]](#footnote-12) Traditional R&D can be an expensive investment, have long development cycles and foster an elitist, “ivory tower” mindset.



# *5. Controlled experiments, Dartmouth model*

# Vijay Govindarajan and Chris Trimble at Tuck/Dartmouth have studied and written about innovation for the past decade. Their parable on innovation and controlled experiments is required business reading.[[13]](#footnote-13) They argue that a key to innovation is similar to the try-learn-do loop of scientific experiments. The discipline of the “lab” or “review board” ensures that experimenting is a tighter process. However, in their later work, they note that the key to innovation in established organizations is not as much method as it is creating the entrepreneurial units that can swim against the entrenched corporate culture.[[14]](#footnote-14)

# 

# *6. Crowd-sourced ideagoria, Tapscott model*

# Don Tapscott championed the value of crowd-sourcing in his book Wikinomics[[15]](#footnote-15). He notes the “ninety thousand scientists from 175 countries who have registered with InnoCentive to provide [R&D] solutions to … some thirty-five fortune 500 companies… [a virtual] eBay for innovation[[16]](#footnote-16).” This is an external model of innovation that takes significant humility, and perhaps trust of potential “non-experts”. But it is proving successful in delivering solutions where the expensive R&D units have failed.

# 

# What colleague organizations are doing

There are a number of innovation initiatives at international organizations, government organizations and NGOs. Three recent examples are World Vision, Sightsavers, USAID/DFID and the UN.

In 2012, World Vision created an Innovation Fund and raised $4M toward a $15M goal**.[[17]](#footnote-17)** The objective of this fund is to do the “work of innovating at ground level, successfully replicating the most promising approaches, and then scaling them globally through World Vision and other humanitarian organizations”

Sightsavers is a UK-based INGO that launched an Innovation Fund in 2011 and completed a second round in 2012, for 13 winners for up to 75,000 GBP each[[18]](#footnote-18). Interestingly, all their awards were made to external NGOs.

USAID and DFID launched the Humanitarian Innovation Initiative in February, 2013, with $15M fund for innovation.[[19]](#footnote-19)

The UN Global Pulse Initiative was set up following the G20 conference in 2009**[[20]](#footnote-20)**. Its goal is to explore “how new, digital data sources and real-time analytics technologies can help policymakers understand human well-being and emerging vulnerabilities in real-time, in order to better protect populations from shocks.”[[21]](#footnote-21)

Conclusions

From this brief overview of innovation models, we can draw the following conclusions for IFRC:

## The traditional approach is not working

###### For example in IT, as must-do, compliant and continuing projects dominate, we have a declining number of new projects approved for IT Steering Group (ITSG) funding

###### Funding to “widen” the filter is an issue, as is human capacity

## The R&D lab approach is too expensive and time consuming

## The crowdsource-ideagoria may be too radical for a humanitarian organization

## Disruptive innovation may first be an awareness issue (are we looking for the disruptions, and taking them seriously?)[[22]](#footnote-22)

## Discover and Harvest plus controlled experiments may be best suited for a nonprofit organization budget and culture

# Recommendations

## First, combine the Discover and Harvest model (option 2) with Controlled Experiments (option 5)

##### Use a project review panel, pilots and contests to create an ecosystem for innovation to take root, flourish and scale[[23]](#footnote-23)

##### Disciplined experimenting to take projects to Pilot -> Scale -> Mainstream, with try-learn-do investment levels

* A project review panel could fund innovation projects at three levels: as a limited pilot, scaling successful pilots, and then mainstreaming successful scaled projects (see figure 1, below).

## Second, create an innovation fund to get started

### Allocate an initial budget of 1.5M CHF and evaluate after one year (See the GSMT IT Think paper for details)



Figure - A Project Innovation Review Model

As noted in the prior IT Think paper on local innovation, “during times of economic challenges, it may be difficult to act on a set of recommendations that require investment. However, it is the smart organization that doubles-up on their most strategic projects so that when economies turn, an organization can accelerate.[[24]](#footnote-24) It is a very strategic question to ask what business as usual projects can be deferred so that more strategic projects can be funded now.”

A key concluding question we need to ask ourselves is: how will we provide increased relevance in a rapidly changing world if we are not investing in innovation?

## Appendix – Innovations at the margins



1. The excerpt from the GSMT Outcomes document on the “Developments in the Americas” document is included in the Appendix. [↑](#footnote-ref-1)
2. The “Bamboo Theory” was proposed by Walter Cotte as a metaphor for the need for rigid standards at the base and increasing flexibility as you move up the scale from Zones to the Field operations in National Societies. [↑](#footnote-ref-2)
3. Clay Christensen, Davos interview, January 2013. See <http://www.davidkhurst.com/clayton-christensen-at-davos-an-ecological-perspective/> and <http://www.wired.com/business/2013/02/mf-clayton-christensen-wants-to-transform-capitalism/all/> [↑](#footnote-ref-3)
4. The Wikipedia entry for *innovation* makes two interesting points: first, “Innovation differs from invention in that innovation refers to the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself.” Second, “Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better.” <http://en.wikipedia.org/wiki/Innovation> [↑](#footnote-ref-4)
5. The International Civil Society Centre paper on Disruptive Change, [“Riding the Wave…Rather than being swept away”](http://icscentre.org/downloads/RidingTheWave_web_spreads.pdf) (Oct. 2013), on which I collaborated, notes that disruption is comprised of scale, speed and surprise. [↑](#footnote-ref-5)
6. Compare the original article on reverse engineering, “How GE Is Disrupting Itself,” by Jeffrey R. Immelt, Vijay Govindarajan, and Chris Trimble, *Harvard Business Review,* October 2009. [↑](#footnote-ref-6)
7. Richard Tanner Pascale & Jerry Sternin, “Your Company’s Secret Change Agents,” *Harvard Business Review,* May, 2005. Also see my “Discover and Harvest” article, here: <http://eghapp.blogspot.ch/2010/05/discover-and-harvest.html> [↑](#footnote-ref-7)
8. See the “Innovations at the margins” slide in the appendix [↑](#footnote-ref-8)
9. Christensen’s classic book on the topic is The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail, Harvard Business Review Press; 1st edition, 1997. [↑](#footnote-ref-9)
10. The report will be released in Nov. 2013; an overview is on the ICSC web site, here: <http://icscentre.org/area/disruptive-change-ahead> [↑](#footnote-ref-10)
11. See the Booz&Co study “The 2012 Global Innovation 1000 Study: Making Ideas Work” at: <http://www.booz.com/global/home/what-we-think/global-innovation-1000>

    And the info-graphic at <http://www.booz.com/global/home/what-we-think/global-innovation-1000/rd-intensity-vs-spend> [↑](#footnote-ref-11)
12. The annual CIO4Good survey conducted with Blackbaud is available to members only. [↑](#footnote-ref-12)
13. Vijay Govindarajan and Chris Trimble, How Stella Saved the Farm: A Tale About Making Innovation Happen, St. Martin’s Press, 2013 [↑](#footnote-ref-13)
14. See Chris Trimble’s HBR Blog post “To Innovate, Turn Your Pecking Order Upside Down,” May 8, 2012 <http://blogs.hbr.org/2012/05/to-innovate-turn-your-pecking-order-upside-down/> [↑](#footnote-ref-14)
15. Don Tapscott, Wikinomics, How Mass Collaboration, 2006. Note chapter 4 on “Ideagoras”. [↑](#footnote-ref-15)
16. Tapscott, pp. 98-99. See the InnoCentive web site, here: <http://www.innocentive.com/> [↑](#footnote-ref-16)
17. Private paper, World Vision, 2013. [↑](#footnote-ref-17)
18. Details on the Sightsavers program are here: <http://www.sightsavers.org/in_depth/quality_and_learning/innovation_fund/18248.html> [↑](#footnote-ref-18)
19. See <http://www.usaid.gov/div/humanitarian-initiative> [↑](#footnote-ref-19)
20. See <http://www.unglobalpulse.org/about-new> and the *Fast Company* article, “INSIDE THE UNITED NATIONS' INNOVATION OVERHAUL,” Nov. 17. 2010, <http://www.fastcompany.com/1700055/inside-united-nations-innovation-overhaul> [↑](#footnote-ref-20)
21. The tsunami of citizen data (Haiti and Japan cases) falls into the current popular technology category of “big data”. The filtering and harvesting of this data is a challenge we are not addressing well in the humanitarian community, perhaps in part because the data is hard to aggregate into actionable data, in part because the veracity and quality of the data is hard to establish, and in part because our humanitarian organization mindset does not typically embrace information we do not directly gather. The flip side of the big data challenge is that we have a plethora of siloed information across organizations that we are simply not aggregating and mining for insights. In this sense, we are *data poor;* the potential bucket is large, but it’s relatively empty. Rays of light are the new [UNHCR data portal](http://data.unhcr.org/portfolio/tag/portal/) and the NetHope/Harvard [Open Humanitarian Initiative](http://nethope.org/blog/2012/04/open-humanitarian-initiative-improving-disaster-response/). [↑](#footnote-ref-21)
22. Paul Conneally, ITU’s Communications Director, made some interesting comments about disruptive innovation pointing to the coming wave of technology and data that originate from the citizen/beneficiary side. A potential opportunity for IFRC is to consider the case of distributing mobile phones preloaded with cash as not just a new distribution of aid, but also a distribution of information access and connection. What citizens do with this is more important than what we do with it after the disaster relief which they serve. [↑](#footnote-ref-22)
23. A project review panel was featured in John Butman’s book, Flying Fox, American Management Association, January 1993. The Microsoft Imagine Cup competition provides an interesting case study for global ideal and pilot generation. See <http://imaginecup.com/> [↑](#footnote-ref-23)
24. This is the approach Cisco, for instance, takes. See the 2009 [McKinsey interview with John Chambers](http://www.mckinsey.com/insights/high_tech_telecoms_internet/mckinsey_conversations_with_global_leaders_john_chambers_of_cisco), where he notes “…as tough as this is, this is when you have a chance to make change. And, while I always wish we had avoided it, how you handle what we call market transitions—and part of that is economic challenges—determines where you are in the future. And unfortunately, the more disruptive they are, actually, the more opportunity they offer.” [↑](#footnote-ref-24)