Disruptive Technologies for Nonprofit Enterprise Growth: Options for When Your Organization Does Not Possess the Technical Core Competencies to Leverage Such Assets

Michael Wong 23 January 2013

Introduction:

Whether you are a foundation, a charter school or any other social enterprise organization, given the way that Big Data, predictive analytics and other disruptive technologies are enabling savvy entities to build sustainable growth, we are all living in one of the most momentous times of change in human history. But what happens when an organization does not have the technical core competencies to capitalize on such opportunities? The following interview with Partner and Vice President Stephen Harvey at IBM Business Analytics and Optimization uncovers pragmatic options for resource-constrained nonprofits.

Q. Why are disruptive technologies so important for

entities?

A. Today, we are witnessing what many refer to as the "Data Explosion" era—approximately 90% of the world's analyzable data has been created in just the last 24 months. This new age of "Big Data" has provided a number of astounding opportunities for entities to help achieve their respective strategic plans. In combination with recent developments in computing power, Big Data makes it possible to execute many operations that previously could not be done or that would have taken too much time. For instance, one well-known consumer electronics chain leveraged available customer data and analytic models to help predict their target consumers' behaviors. What was interesting for them was that the one medium that everyone assumed was losing value—television—turned out to be an important one for their specific target customers. As a result, this company made a strategic decision to reallocate their limited resources from newspaper inserts to television, a decision that eventually generated handsome returns.

Another example is where one of the country's largest police departments created a data warehouse that collated information buried in filing cabinets, index cards and handwritten notes. Today, this system stitches together more than 120 million criminal complaints, 31 million national crime records and 33 billion public records, and leverages sophisticated analytics and search capabilities to make connections across the multiple

databases. To apply this vast amount of information against realistic daily operations, the system creates simple but compelling visualization maps that can be quickly digested by the intended target audiences—such as a two-story video wall with a photo of a suspect appearing with details such as tattoos, past offenses, addresses with maps—quickly filled in and then shared instantly with officers for handling. What once took days now takes minutes!

Q. So it seems that disruptive technologies are being leveraged equally by both for-profit and nonprofit entities?

A. In my observations, while I have seen a number of for-profit entities rapidly embrace these emerging disruptive technologies, it seems that there are still many uncovered areas for nonprofits to tap. Nonprofits should consider that just a few months ago, IBM's Institute for Business Value released findings where it discovered that nearly two-thirds of respondents reported that the use of information (including Big Data) and analytics is creating a competitive advantage for organizations. This recent finding compares to 37 percent of respondents in IBM's 2010 New Intelligent Enterprise Global Executive Study and Research Collaboration. The exciting news for bold nonprofit leaders is that they have an opportunity to seize a differential competitive advantage through such technologies, since many of their peers have not, at least for the time being.

Q. But what happens if an entity, particularly a nonprofit, wants to participate in such new trends but doesn't have the internal core competencies to help management understand "the how and the what" of leveraging such assets?

A. The potential good news for your readers is that this resource constraint is a challenge for some Fortune 500 companies as well and that best practices can be studied from a variety of industries to determine pragmatic solutions. For instance, hospitals often do not have the deep resources that multinationals do, but I remember how a Canadian-based one was able to creatively pull together a diverse group of stakeholders to transform their operational practices and address some deadly sepsis issues for their neonatal population. While the hospital's doctors and nurses did not have a background in disruptive technologies like stream computing, they were able to collaborate with mathematicians who didn't understand sepsis but were experts in technical solutions. By investing time in the beginning to ensure that all team members understood the end-to-end processes that needed transforming and the ultimate target outcomes of the initiative, their collaborative efforts resulted in the delivery of tangible results. So, I would encourage your readers to participate in networking forums (*Philadelphia Social Innovation Journal*, local alumni programs, etc.)

where they might meet individuals who come from different backgrounds and yet with a little creative thinking, figure out some ways to connect the disparate dots.

Q. Given your consulting background, have you seen any interesting collaborations that are city-based with nonprofits involved?

A. Well earlier this year, South Bend (Indiana) began partnering with the University of Notre Dame to support a system that helps proactively manage combined sewer monitoring and control, one of the biggest resource issues for cities around the world. Through a collaboration with a number of entities, their team has significantly improved South Bend's ability to predict the potential overflow of hazardous wastewater, helping to protect citizens and the environment by virtually eliminating dry weather wastewater overflows from 27 down to one in its first year of operation. From an economic perspective, the new system also allowed South Bend to improve storage and water conveyance performance while avoiding $120 million in infrastructure investments and helping the city avoid more than $600,000 in potential government fines.

Q. Well, it sounds like technology is the major driver for positive change when it comes to the big three components of a strategy: people, processes and technology?

A. Actually all three are important but unfortunately, where I have seen the biggest gaps in project success have been around the human capital side. For example, if you don't have a team that is working from the same page with common language and an aligned understanding of the team's prioritized target outcomes, your probability of success dramatically decreases. But when you do have these right cultural factors in place, this is where some magical ideas can be produced.

Q. Finally, why are disruptive technologies so important for your clients?

A. Besides just helping to build a sustainable business model for their entities, these disruptive technologies can support their most important assets, their employees. I have been keenly reading the insights from the Harvard Business School's US competitiveness report. I appreciate the fact that their research has a focus whereby "the US is seen as a competitive location to the extent that companies operating in the US are able to compete successfully in the global economy while supporting high and rising living standards for the average American." As professor Michael Porter has commented, "A competitive location produces prosperity for both companies and citizens"*. As such, I believe even resource-constrained nonprofits have an exciting opportunity to develop disruptive technology-based partnerships that enable their entities and support their valuable staff.

*Source:

Harvard Magazine, "Can America Compete," September-October 2012

Author Bios:

Michael Wong has over 20 years of sales, marketing and international business experience with *Fortune Most Admired* companies including IBM, Apple, AstraMerck, AstraZeneca, and Merck. As an adjunct professor at Saint Joseph's University, his insights have been shared in publications including the *MIT Sloan Management Review*, *Pharmaceutical Representative* and the *Philadelphia Social Innovations Journal*. Mr. Wong received his MBA from the Harvard Business School and undergraduate degree from Boston College. Finally, he serves on the Harvard Business School Health Industry Alumni Association's Board of Directors.