UNDERSTANDING THE TRUE ROLE OF DISRUPTION IN FEDERAL HEALTH

This interview with Clement Chen, VP, Health & Human Services, Leidos Health Group, discusses the difference between conventional technology improvement that is sustaining versus disruptive technology, and offers advice to industry and Government on how to differentiate between the two and seek positive disruption.

THE EVOLUTION OF TECHNOLOGY

When we think about the evolution of technology, we need to look at it from the view of how the technology matures, how it is adopted, and whether it becomes meaningful, or not, in the lives of real people in real circumstances. In simplistic terms, technology can be viewed as either sustaining or disruptive.

Let’s talk about sustaining technology first. Sustaining technology tends to evolve naturally on a path where performance along a given dimension improves incrementally or even in a leap-ahead fashion over time. A car that starts out able to go from 0 to 60 mph in 10 seconds may at some point, through sustaining innovation and improvement, be able to go from 0 to 60 in under five seconds. That advancement is important when cars are viewed as a mechanical means of transportation where speed is essential. Disruptive innovation arrives when cars become animated with digital technologies that transform them into being something more than just mere cars but rather “computers with wheels.” This transformation creates a whole new world of possibilities that was not in view at the outset.

Now let’s talk about disruption by looking at how the world of video gaming has changed over time. Gaming companies have engaged in an endless arms race of producing new systems and games with dramatically improved graphics and features. Then along came the Nintendo Wii. Its traditional feature set was inferior to other systems but it came with a disruptive technology—a motion-controlled video wand used in combination with movement-based social games—that drew in a whole new population of consumers who did not consider themselves to be gamers at all. Witness, for example, the birth of nursing home virtual bowling leagues. The Wii technology was disruptive because it tapped into a different dimension of need for a non-traditional class of users, met them where they were, and provided them with a satisfying and meaningful experience.

The birth of the smartphone camera is another example. Its introduction was disruptive, bringing to people what was not a great quality camera at first, but one that satisfied the need to send an image immediately across a network and enabled social interaction that didn’t exist before. Over time, phone cameras have improved dramatically thanks to exponential growth in the foundational technologies of bandwidth, storage, and processing power. With widespread fielding and adoption, these disruptive cameras have now become a sustaining technology that follows the conventional improvement curve, thereby completing the circle of life in technology evolution.

THE HEALTHCARE VIEW

Historically, Healthcare delivery was built around the hospital as the center of the universe, covering everything from the sniffles to brain surgery. That model persisted for many decades until disruptive innovation emerged in the form of the retail health clinic. These retail clinics can’t handle even a fraction of what hospitals can do, and therein lies their strength. The disruptive insight of these clinics is the recognition that people don’t want more Healthcare, they want more health. If they can achieve that improved health without actually having to deal with the traditional Healthcare system, then all the better. Retail clinics succeed because they optimize convenience and cost in concert with health. They maximize the use of lower-skilled clinicians practicing at the top of their licenses and leave the more highly trained physicians, who would be overqualified for clinic work, to handle more complex issues.

Telehealth is another example. While telehealth has been around for a long time, it was generally seen as an inferior mode of care delivery compared to in-person interactions. Healthcare policies and reimbursement mechanisms reinforced this notion. Then COVID-19 struck. The circumstances created by this pandemic have made telehealth the delivery method of choice because it enables the opportunity to provide “good enough” care for many conditions
Disruptive innovation is about the coevolution of technology with process centered on the job a user performs in a particular circumstance. These innovations must be embraced together to realize the fruits of disruption, such as the democratization of technology for end users in the form of widened access, reduced costs, and improved convenience. Perhaps most importantly, democratization reduces the need for users to be “tech savvy” in order to realize the benefits of the technology. For example, advanced data analytics tools are great, but if data scientists are the only ones who can use them, then they are not really disruptive. True disruption occurs when the innovation enables everyday people to get value from the improvement without the need for specialized skills or training.

Identifying Innovation

Too often, technology evolves in a way that requires the human to act more like a machine to reap its value. True innovation puts tools and information in the hands of end users within the normal rhythm and flow of how these users go about their business. When users have to perform unnatural acts or adopt compensating behaviors in order to do their jobs, you can be sure that a disruptive opportunity lies in wait. The DOD recognized this situation more than two decades ago when it realized that the lack of networked information flow to soldiers at the pointy edge of the spear led to continual battlefield improvement and to get their jobs done. This realization led to the disruptive concept of network-centric warfare and the empowerment of the nodes at the edges of the network (i.e., the soldiers), which gave rise to the emergence of unmanned systems as an integral part of military operations. This disruptive concept enabled humans to do what they do best and, in the process, made the machine more like an extension of the human (and not the other way around).

A similar disruption is coming to Healthcare, fueled by data as a key disruptor. Instead of focusing on getting more data into a central hub for limited consumption, more attention will be applied toward getting data to the people at the edge of the network—the patients—and providing them with the power to understand their health and make critical decisions. Given that most decisions that affect a person’s health are made by the individual and not the Healthcare system, empowering individuals with actionable information will likely be an enduring disruptive trend.

The Allure of Technology

We have to resist being seduced by bright, shiny objects when it comes to determining the value of technology. We should think of technology as a stable of tools that we have at our disposal and train our attention on the customer need first. If you can truly understand the customer’s need first and above all, the tools will always be available to then apply. When we focus on the technology first, it narrows our view of how to frame and address the real problem. Theodore Levitt, the late Harvard Business School marketing professor once said, “People don’t want to buy a quarter-inch drill. They want a quarter-inch hole.” Disruptive innovation is about focusing on the quarter-inch hole.