



October 21, 2009

Volume 7, Number 19

Welcome!

As the national debate about healthcare policy continues, we revisit how the theories of disruptive innovation can help solve entrenched problems in this area. In our first article, “Experiment to Innovate – Even in Healthcare, Where the Stakes are Highest,” Innosight partners Steve Wunker and Joe Sinfield question the assumption that government regulations and established clinical trial procedures completely preclude experimentation by pharmaceutical and device companies. They offer a set of sound reasons such companies would want to experiment and advice for how and when to go about it.

In this issue we also feature “Swallowing *The Innovator's Prescription*” by Kevin Bolen, Steve Wunker, and Jason Hwang, M.D., which offers advice on how pharmaceutical and device companies can use Clayton Christensen's "The Innovator's Prescription" as a playbook to navigating the disruptions in healthcare.

Comments and suggestions are always welcome – send them to editor@strategyandinnovation.com.

— Renee Hopkins, Editor

Feature: Experiment to Innovate – Even in Healthcare, Where the Stakes are Highest

Clinical trials and government regulations needn't keep pharmaceutical and medical device companies from using test-and-learn strategies

By Steve Wunker and Joe Sinfield

In healthcare, firms often think that experimentation is something for the lab bench. For instance, there is remorseless trial-and-error in drug discovery and development, where only about 1 in every 10,000 compounds created will eventually make it to market. But once a molecule emerges from that process, experimentation tends to cease.

We often hear healthcare suppliers tell us that their ability to experiment once they are in-market is almost nil. Government authorities allow no freedom to change the composition of a

drug molecule or a medical device once it has been approved, unless the firm is willing to undergo a very lengthy, costly process of regulatory review.

The types of interactions that sales representatives have with physicians are also tightly constrained; for instance, pharmaceutical representatives must confine their discussions to legally vetted topics and claims, and medical-device sales representatives may not be allowed into an operating room to see how physicians use their products in practice.

With such tight regulatory supervision and a product pipeline that typically yields at most a small handful of new launches a year, companies invest heavily in the few products that emerge from the healthcare R&D process. A typical drug launch, for example, can easily cost tens of millions of dollars or more. With patent expiry dates dictating the lifecycle of a product literally to the day, firms are in a hurry to maximize sales while they can.

Blowing the Opportunity

This situation is perilous. Pfizer, the world's largest drug maker, offers a telling illustration. Beginning in 1996, it invested heavily in creating an inhaled form of insulin to treat diabetes. On its face, such a product seems an excellent idea. The market for injected insulin is several billions of dollars per year, and people do not enjoy sticking themselves with needles. Once Pfizer validated what it viewed to be its biggest assumption – that the insulin could be delivered as consistently through inhalation as through a needle directly into the bloodstream – it pushed hard into this space.

In 2006, Pfizer received FDA approval to market the inhaled insulin product Exubera, which it had licensed from biopharmaceutical company Nektar. Pfizer invested approximately \$2.8 billion to get to that milestone and predicted to investors that sales would be \$2 billion annually. Then came the big commercial launch, with slick television commercials and armies of sales representatives. Total sales? \$12 million a year. In 2007 the company pulled the plug on this extraordinarily expensive failure.

What went wrong? One of the value propositions for the patient was the ability to “feel normal” again. Certainly this was an important insight about consumers, but the actual product was a tube the size of a flashlight, and had to be used as if it were a large pipe. Dosing insulin into the tube required measuring increments unfamiliar to patients and physicians. Patients had to have a special lung function test before being allowed to use the product.

Another problem was resistance from physicians. As one endocrinologist put it, “I can teach someone how to use an insulin pen in five minutes, but it would take nearly an hour to teach a patient to use inhaled insulin.” Finally, a safety concern (see related reference) obvious from the project's inception continued to worry many doctors — that 90 percent of the inhaled insulin did not make it into the bloodstream and might have unknown effects in the lungs.

None of the concerns that ultimately sunk Exubera required an actual product launch to validate. Experimentation could have helped Pfizer avoid this expensive failure. Experiments could have included giving patients a mock-up of an Exubera tube to carry around with them and use in public, and then asking them how they felt about the experience. Pfizer could have done more market research into the impact of unfamiliar dosing, lung function tests, training time, and safety concerns. The cost of this research would have been far less than even Exubera's eventual sales.

Levers for Experimentation

Before spending serious money on development and commercialization, pharmaceutical and medical device firms would do well to undertake a disciplined process of evaluating their major assumptions and risks, the degrees of freedom they have to experiment, and the types of tests they can run. Usually, they will have significant flexibility in areas including:

Which outcomes are critical to prove in a clinical trial? For instance, does a weight-loss drug or device need to establish that it reduces the incidence of diabetes, or that it reduces weight by a certain percentage under any circumstance, or that it reduces weight when combined with a specific diet? The answers to these kinds of questions will depend upon which stakeholders most impact the product's adoption, and what "quality" means from their perspective.

Regulators of course will want to see quantifiable improvements in the patient condition for the target indication. Payors, however, may want to see that the improvements actually lead to reductions in the long-term and even short-term cost of care — for example, by helping patients avoid acute events or reduce chronic symptoms. Patients may want to be assured side effects will be minimal, or find out about compatibility with other conditions. Exactly what is desired or required by each stakeholder can be understood through straightforward interview- or survey-driven research before clinical trials ever begin.

What stakeholder challenges should be addressed to facilitate clinical trial success? Clinical trials can fail for many reasons other than the overall efficacy of a drug or device. Patient frustrations with a product's ease of use can lead to lack of compliance or adherence. The inability to facilitate communication between patients and physicians on appropriate use of the solution under study can lead to incorrect use that could alter outcomes. Ineffective education of involved practitioners and staff can result in incomplete or incorrect data tracking and record-keeping. Weak strategies for patient and investigator recruitment, enrollment, and retention, which can depend upon appropriately casting the goals and merits of the study and effectively anticipating the nature of the participants' trial experience, can lead to high trial drop-out rates and reduced or inconclusive participant pools from which to derive outcomes.

All of these pitfalls can be avoided by rapidly gaining an understanding of the way in which the trial solution will impact the patient's routine and the practitioner's day-to-day work practices. These insights can be gained through ethnographic research of representative patients and

practitioners conducted before the clinical trial protocol is developed.

What is the overall patient experience that will create and sustain market demand? While the drug molecule or device construction may be inalterable due to regulation and patent law, many variables that make up the overall experience for patients and physicians are not. These variables ultimately influence practitioner recommendations, patient willingness to adopt, and long-term patient adherence to treatment regimens. These variables, which the company can influence, include ways in which:

- People become aware of their condition
- The condition is diagnosed
- Other therapies are considered
- The company's therapy is administered
- Patients and practitioners are educated about the company's own therapy
- The condition is monitored both inside and outside the physician's office
- Pharmacists dispense medications
- Patients understand their side effects and how to deal with them

Information to define these variables can be gained through patient surveys, in-depth interviews, and observational research, as well as consultations with practitioners and other experts – all of which can be carried out before an actual drug or device is even available.

Which stakeholders could be involved in the development and commercialization process to share risk and improve the probability of success? The benefits of a new drug or medical device may be far-reaching and can appeal to a multitude of stakeholders. Certainly device manufacturers, such as the makers of monitoring hardware, have interest in seeing their offerings adopted to support “beyond the pill” strategies of pharmaceutical companies.

Further, a subset of independent practices and integrated delivery networks are interested in being on the cutting edge of care provision, and may thus be willing to partner in small-scale tests that could enable learning about new drugs or devices that could influence their quality of care and/or cost structure. Finally, some payors may even be willing to participate in low-cost pre-clinical activities that have the potential to facilitate long-term reductions in treatment costs. These can all be explored through direct conversation, requiring only minimal resources.

Who are the foothold customers, and how should they be approached? Historically, many healthcare suppliers have aimed for the biggest market possible, in order to maximize their chance of a home run. However, these markets attract considerable competition, and targeting broad swaths of patients often means that many will not respond to a therapy as intended.

An alternative is to focus narrowly on a group of patients, physicians, or institutions that will value a therapy very highly, adopt it readily, and sing its praises. Although this shift in focus requires processes within the pharmaceutical company that can prioritize “small” ideas and scale-back traditional launch activities, the reward over time can be a handful of platforms for

future growth. In the process of re-making its business model from blockbuster-seeker to champion of tailored drugs, the Swiss drug giant Novartis has successfully followed this approach with Gleevec. This anti-cancer drug was launched initially for a rare type of blood disease affecting only a few thousand people a year, and since then has grown to be approved for six other conditions. In the process its sales have grown to \$3.7 billion a year (see related reference).

Disaggregating Tests

One of the authors once sat in a meeting with the heads of marketing and R&D for a drug business to discuss how a novel offering could be piloted. After hearing the plan the marketing head had drafted, the R&D chief exclaimed, “I just don’t understand you people. In science, we test one thing at a time. You’re trying to test 10 things at once and you hope you’ll actually learn something.”

Testing multiple variables at once is time-consuming, costly, and hazardous. It can be extremely difficult to discern what caused success or failure in these kinds of experiments. These integrated tests also require several facets of the value proposition to be sufficiently developed before a test can even be run.

By contrast, if a firm is testing only one or two assumptions at a time, the rest of the proposition can be primitive. One pharmaceutical company used this focused approach when it recently evaluated how to create a system that monitored the progression of a condition treated by its drugs. It planned four different tests, which collectively could be executed faster and less expensively than one integrated experiment. The tests were also staged so that a positive result at each stage would enhance confidence for investment in subsequent tests.

A “Beta Test” run on the company’s own employees through its onsite clinic established that the monitoring device actually worked when it was shipped, and that there were no technical difficulties in obtaining the data readings. A series of “Assumption Tests” tested key elements of the proposition, e.g. that administrators of doctors’ offices could sign up patients easily, data readings would be integrated into medical records, and patients would use the device properly in their homes. A “Commercial Test” will examine whether financial projections of increased drug adherence actually come about. Only once these tests are completed and the proposition is tweaked accordingly, will a “Clinical Test” evaluate the program’s medical effectiveness.

In the case of this company, the tests were sequenced according to costs, timeframe, and impact of outcome. The Beta and Assumption Tests were inexpensive and quick to run, and helped the firm confirm multiple aspects of the required user and practitioner experience. The Commercial Test is somewhat more expensive and time-consuming, and addresses a major assumption underlying the financial impact of the program. The Clinical Test is the most costly and lengthy, and the major results are in little doubt, but the test is required by government regulators and health insurers.

We often hear that experimentation is not possible when the stakes are life and death. This argument misses the point that healthcare suppliers are in the business of science, and experimentation underlies the scientific method. This method should not stop at the laboratory's door.

Related references

<http://online.wsj.com/article/SB119269071993163273.html>

http://www.businessweek.com/magazine/content/09_25/b4136030131343.htm

Feature: Swallowing 'The Innovator's Prescription'

How pharma can capitalize on the coming disruption in healthcare

By Kevin Bolen, Jason Hwang, M.D., and Steve Wunker

“When angioplasty was introduced, it captured the imagination of cardiologists and surgeons differently. Surgeons were skeptical about this new procedure. Cardiologists saw this as an incredible opportunity to treat patients with ischemic heart disease.”

This comment, made several years ago by the chief of cardiothoracic surgery at a Miami hospital, summarizes the driving force behind the rapid ascent of angioplasty — and the decline in the number of bypass surgeries. Were we to go back to him today, we'd likely hear a similar story of how statins reduce demand for angioplasty by preventing the buildup of arterial plaque.

This series of irrevocable market shifts from one solution model to a cheaper, easier-to-adopt solution — called disruptive innovation — will save America from our looming healthcare crisis. A look at the principles of disruption reveals proven, practical actions pharmaceutical leaders can take to not merely survive the current disruption, but thrive.

The Power of Disruption

Strategy & Innovation readers will likely recall the Digital Equipment Corporation (DEC) story from *The Innovator's Dilemma*. DEC had been one of the high fliers of the computing industry, amassing revenue and profit growth at a previously unseen pace for more than a decade on the strength of their mainframe-beating minicomputers — until it all collapsed.

Unlike more recent failures, DEC's fall had nothing to do with unethical transactions or high-risk investments. DEC's leaders pursued the most profit-rich segments of the market, they listened and responded well to the needs of their best customers, and they aligned their sales and executive performance packages around these objectives. What they didn't do was perceive

that the minicomputer industry was being disrupted by the rise of the personal computer.

In 1980, the cost of a minicomputer was \$200,000, whereas a PC was just \$2,500. As the unit cost of computing tools plummeted, millions of people could “consume” the new technology who had never had access to it before. Disruption did not signal the end of the IT industry — it signaled its reinvention and expansion. For those brave few who initially bucked conventional wisdom and drove the transformation to the PC and later to mobile platforms, the returns were significant. For those like DEC who failed to recognize the signs and respond, the results were devastating.

The same principles of disruption that took down the mighty DEC have likewise irreversibly changed the market for cardiac bypass surgery. Surgeons saw angioplasty only as a curiosity. It didn't fit within their business model and as such they were unmotivated to adopt it. Cardiologists, however, saw angioplasty as a means to radically expand their care offerings and quickly adopted it.

As the cardiologists' technology and techniques improved (for example, the introduction of drug-eluting stents), angioplasties began to be used with increasing frequency, until they eventually outnumbered bypass procedures. Now the next wave of disruption in cardiac care is already in evidence as preventative drugs like Crestor and other statins dramatically reduce the need for angioplasty procedures.

Oftentimes, a market disruption occurs over a decade or more as the disruptor gains traction. Think of mobile phones disrupting landlines, Target disrupting Macy's, or ambulatory surgical centers disrupting hospitals. The transition almost never immediately nor completely displaces the existing solution — many cardiac bypass procedures are still completed every year — which is why company leaders so often ignore the early stages of disruption. Rather, the market for the prevailing solutions smoothly erodes as a series of individual advances in technology, business models, and value networks conspire against the most well-intentioned and well-informed efforts of the legacy providers.

Three Keys to Change

Incumbents typically try to forestall disruptive transformations through competitive maneuvering, strategic acquisitions, and even lobbying efforts. But for consumers and other stakeholders, disruptions offer significant advantages. Herein lies the salvation for America's healthcare system: a disruptive solution that could potentially reduce cost, improve care, and broaden coverage, while unleashing significant growth potential for pragmatic pharmaceutical manufacturers and other sector participants. *The Innovator's Prescription* by Clayton Christensen, Jerome Groosman, and Jason Hwang., M.D., released earlier this year, provides a detailed diagnosis of how this transformation will take place.

1. Technology

As in most market disruptions, technology is the first change driver. In the case of the computer industry, the microprocessor sparked the disruption. For healthcare, new imaging systems and gene-typing biomarkers will improve diagnostic accuracy, while precise surgical procedures and compounds tuned to unique genes and their expression will improve outcome efficacy and predictability.

Already we see evidence of the power of integrated diagnosis, treatment, and dosage. For instance, in a recent agreement with health authorities in the UK and France, Johnson & Johnson has guaranteed that its new drug Velcade (bortezomib) will effectively treat a specific form of multiple myeloma that can be diagnosed with a particular biomarker — or it will refund the cost of therapy. J&J can do this because the treatment is undertaken only after a definitive diagnosis has been made with a specific biomarker. Pharmaceutical firms that are unable to match this pay-for-results offer will find their market position diminished or eliminated.

Diagnostic precision will fragment target markets, as the patient populations become more narrowly defined. The age of the “blockbuster” one-compound-cures-many approach to growth and profits is coming to a close. This poses a problem for the large pharmaceutical manufacturers who require large breakthrough products to fill the multi-billion-dollar gaps in their portfolios.

2. Business Models

As disruptive technologies emerge, they are accompanied by new business models designed to maximize their benefits and reach. These new models often create challenges for market leaders whose business models are less cost-effective.

One way to meet those challenges is to allow a business unit devoted to the new technology to discover its own business model rather than trying to fit into the larger company’s business model. That is what IBM did in creating its PC business, and what Roche accomplished by keeping Genentech at arms’ length until its model had the chance to mature.

The fragmentation resulting from precision diagnostics will require a new approach to production and a resetting of internal expectations around sales forecasting and the yields from R&D efforts. Firms with more flexible development, production, and distribution models will thrive, while less-responsive firms get bogged down with tactical responses (for example, realigning the sales force’s compensation expectations).

The potential routes to discovering a compound can grow manifold as a firm moves into this new business model. Diagnostic firms may locate a biomarker and a firm can then seek an associated target. University researchers and start-ups might discover more targets, given their focus on particular patient segments. And internal decisions around compound prioritization

will need to reflect complex assessments of how microtargeting may cannibalize more broadly marketed drugs.

Moreover, as the complexity of sorting patients and delivering complex therapies increases, physicians and payors are likely to seek total solutions to the problems around a disease state, rather than simply a pill or an injectable. They will look to pharma companies to provide diagnostics, monitoring of effectiveness, mechanisms to ensure adherence, and even behavior modification — unfamiliar demands for many firms.

3. Value Network

As the shifting business model enables a disruptive technology to achieve greater penetration, the value network of the industry is transformed. In computers, the power and profits shifted from the integrated system developers (IBM, DEC) to the component manufacturers (Intel, Microsoft). For healthcare, new technologies and business models will empower a new class of providers — payor models will evolve to reward those models underwriters deem more cost-efficient or least risky and the role of the patient in the care cycle will shift dynamically from an isolated, passive recipient of care to a connected, knowledgeable participant.

Taking Action Now

These disruptive forces are affecting sectors within the healthcare industry in different ways and on different timelines. What cannot be argued, though, is that these forces are at work. For some, *The Innovator's Prescription* will read like a playbook describing how to achieve significant growth by enabling and accelerating the process of care decentralization and patient engagement. Others will see it as a “final notice” that their time as a leader is coming to a close unless they significantly redirect their efforts.

The timelines in both circumstances will vary, but neither will be overnight transformations. We therefore suggest a few actions that established and emerging leaders can take to thrive during this period of disruption.

Understand your stakeholders' jobs-to-be-done

Rather than defining a patient by the progression of his disease or by vague psychographics, the jobs approach (see related reference) can provide actionable information about what really guides behavior. The jobs landscape is particularly complex in the pharmaceutical arena because each member of the value network — patients, physicians, hospitals, pharmacies, and payors — has different sets of jobs. Understanding the jobs of these different stakeholders, as well as their satisfaction with current or emerging solutions, is a crucial first step to understanding how the forces of disruption are affecting your business.

Complete a portfolio analysis to establish the “timeline to disruption”

Pharmaceutical firms have achieved success for decades with a strategy of pursuing silver bullets. They have not had to complete rigorous portfolio management exercises. As this environment changes, firms need be more judicious in their approach. Focusing on the full range of functional, emotional, and social jobs-to-be-done will help refine a perspective on the expected lifecycle of current treatments and the potential impact of each compound in the pipeline. For many companies, this exercise serves three purposes:

1. It uncovers a significant “growth gap” between the “confidence-weighted” value of current and pipeline treatments versus the growth required to meet market expectations.
2. It may shorten the expected viable lifecycle of existing offerings, as the broader competitive definition eliminates blind spots and exposes unforeseen weaknesses.
3. It identifies gaps in the portfolio and pipeline that present opportunities for growth, but are receiving insufficient attention or resources.

Consider changes to the business model to maximize value in the new healthcare economy

If we accept that the healthcare market as we know it is being transformed by disruption, it stands to reason that the business models that thrived in the old economy will not sustain us into the next industry iteration. As such, we must rethink the very fundamental architecture of the company in light of the emerging value network and aggressively realign as required. As outlined in the *Harvard Business Review* cover article “Reinventing Your Business Model” (Johnson, Christensen, Kagermann, December 2008), these four business-model components must be aligned to obtain the maximum value from the market:

1. **Customer Value Proposition** — First and most important, a successful company has found a way to create value for customers — that is, a way to help customers get an important job done. The more important the job is to the customer, the lower the level of customer satisfaction with current options, and the better your solution is than your competitors’ at getting the job done — the greater the value for your company.
2. **Profit Formula** — The profit formula is the blueprint that defines how the company creates value for itself. People often think that profit formulas and business models are interchangeable, but how you make a profit is only one piece of the model. It consists of the revenue model, cost structure, margin model, and resource velocity.
3. **Key Resources** — The key resources (or assets) are the people, technology, products, facilities, equipment, and brand required to deliver the value proposition to the targeted customer. The focus here is on the key elements that create value for the customer and company and the way those elements interact.
4. **Key Processes** — Successful companies have operational and managerial processes that allow them to deliver value in a way they can successfully repeat and increase in scale. These may include such recurrent tasks as training, development, manufacturing,

budgeting, planning, sales, and service. Key processes also include a company's rules, metrics, and norms.

Often, companies find it impossible to reshape their architecture, as existing customers and stakeholders demand continued support under the old structure. Business schools teach that strategy informs the customer value propositions, which then inform choice of profit model, resources, and processes.

However, firms can become captive to the inverse, where the rearview mirror of resources and processes guides future strategies. In these instances, strategic acquisitions may be necessary to rapidly introduce a new business model. As this more future-ready model grows in response to macro-industry shifts, the old model can naturally recede.

To underscore the need for such actions, we often advise clients to explore a series of "what if" scenarios to determine how well-positioned their model is to respond. For instance, Dell asked "What if we sold direct?" and reinvented the PC market, while stranding many competitors who never challenged their model this way. Salesforce.com asked "What if we sold software as a service?" and redefined the economics of that industry. UPS asked "What if we took a broader view of our customer's jobs?" and looked beyond package shipping to supply chain management and logistics solutions.

For pharmaceutical companies, we offer the following thought starters:

- What if US pharmaceutical payors adopted a different model for reimbursement, e.g. the Japanese model of pricing based on the cost in other nations?
- What if Medicare cut the reimbursement rates for all drugs by 25 percent?
- What if the percentage of people covered by integrated fixed-fee providers like Kaiser Permanente increased to 25 percent from the current 5 percent?
- What if comparative effectiveness studies become government-sponsored cost-effectiveness studies?

Leadership for Changing Times

Companies facing a broad market disruption often look to their best and brightest leaders to assess the situation and plan a response. But the skills that enabled these leaders to drive significant value in the old economy are not the same skills required to lead an organization through a radical restructuring.

Recognizing and responding to market disruptions requires a broader lens and an ability to foresee threats and opportunities. Success in this more ambiguous environment depend more on a willingness to experiment and to maintain flexibility in responding to new information. Such "risky" behavior has not been encouraged in the traditional environment, and it should therefore come as no surprise that the requisite skills to lead in this manner have not been

developed organically.

As with the business model transition, it is advisable to look outside and graft these skills onto a leadership team rather than expecting old-model leaders to change. We advocate looking for the right “schools of experience” (see related reference), people whose resumes demonstrate that they have thrived in the environments you envision. Past entrepreneurial efforts are always a good indicator of a candidate’s comfort with ambiguity.

Another source of this talent is acquisitions. In these situations it is important to remember that you are buying your way into the future of the healthcare economy. When Best Buy acquired The Geek Squad, a firm representing a tiny fraction of Best Buy’s overall revenue, they knew that the acquisition would have to have an impact far broader than the balance sheet if Best Buy were to succeed in a services-based business model.

Once you have introduced these new perspectives into the mix through recruiting or acquisition, remember why you did it, and seek to have the organization conform to the new style versus requiring them to conform to the legacy model. This may, for a time, require that two autonomous groups be established — one to serve the legacy market and one to drive to a leadership position in the new.

In summary, it is clear that not only are disruptive forces at work in healthcare today but that America needs disruption to occur if we are to provide care to an aging population without going bankrupt. New technologies, new business models and a general reset of the value network are the only means to achieve these objectives. Along the way, pharmaceutical companies can either lead this transformation or be overcome by it.

For those who choose to lead, the changes need to start now or there will simply not be enough time to complete the migration before the new economy is upon us. For those who choose to stay the course, you may put your faith in acquisitions and lobbying to maintain leadership positions, but you cannot hold back the tides of disruption indefinitely.

A version of this article first appeared in the July 2009 issue of Pharmaceutical Executive magazine.

Sidebar: Examples of How Pharma Can Ride the Wave of Healthcare Disruption

In-sourcing Enables Targeting

Rather than outsourcing the research and development of companion diagnostics for its drugs, Novartis has set up a new business unit to help co-develop these diagnostics in-house. The company’s success with Gleevec demonstrated that, with the aid of coupled diagnostics, a viable business model could be built upon smaller target markets than what most of the industry was accustomed to. Novartis’s new initiative will also pursue diagnostics un-related to the parent company’s drugs, an indication that the diagnostics business will have sufficient

degrees of freedom to build a business model that can succeed independent of its parent's ability or inability to cope with changing market forces.

From Bleach to Biomarkers

Accepting that connecting with patient attitudes and needs will be a critical requirement in the new healthcare economy, Novartis went shopping for an executive with deep consumer experience to lead Novartis Pharma AG and found Joseph Jimenez in the ketchup aisle. His official corporate bio reflects a very successful career spent not in hospitals or labs but in grocery store aisles and focus groups with such firms as Clorox, ConAgra and H.J. Heinz. By recognizing and closing this gap in their leadership ranks, Novartis has taken a key step in reinvention. Listening to Jimenez and aligning the corporate culture to leverage his insights versus bending him to the will of the core business will be the next hurdle in this unique professional alignment.

Take Two Surgeries and Call Me in the Morning

While pharma companies continue to compete to create the ultimate “diet pill”, device companies have been approaching the same issue of obesity from an alternate track one that is increasingly less risky, reversible, and simple enough to be performed by gastroenterologists. Adopting this broader view of competition forces a re-evaluation of the viability and lifecycle of both the current products and pipeline of compounds under development. As you accept that patients and providers will be focusing not only the best “pill” available but the best solution available for their jobs, you can adjust the expected performance, breadth of experimentation, and development timelines accordingly.

Jobs in Complex Treatments

While physicians share a common job of curing disease, their underlying motivations can be complex and contradictory. Some treatments entail difficult complications and long duration, leading to callbacks and repeated visits to ascertain progression. Oftentimes the physician will delegate these interactions to a nurse, as the nurse may be more motivated to provide high-touch care. Conversely, the physician may be motivated to determine whether the patient will stick with the therapy and alter their lifestyle appropriately, so she does not begin costly interventions with little likelihood of success. Pharma companies could help both of these stakeholders, and need to assess how feasible it is to address the jobs of each.

Related references

http://www.innosight.com/our_approach/JOBS.html

<http://harvardbusiness.org/product/reinventing-your-business-model/an/R0812C-PDF-ENG>
http://www.innosight.com/innovation_resources/insight.html?id=477
<http://pharmexec.findpharma.com/pharmexec/issue/issueDetail.jsp?id=17680>

From the InnoBlog

Re-Casting 'The Silver Lining'

By Scott Anthony

Clayton Christensen is a wise man. Back in 2002, Erik Roth and I were having a discussion with Christensen about how we should approach the writing of what became *Seeing What's Next*.

"Don't start by writing," Christensen advised. "Instead give a bunch of talks. That's the only way you'll learn the best way to communicate your ideas."

Six months after *Seeing What's Next* came out and I gave about my 10th speech on the topics in the book, I realized how right Christensen was. Condensing a complicated argument in a compelling way provided vital (and, sadly, unusable) guidance on how to write the book.

It's no surprise then that I learned this lesson again the other week when I gave about my tenth speech on the topics in *The Silver Lining* and the gears in my brain finally clicked.

The book's core argument is that innovation is possible no matter how dark the times, innovation has moved from a strategic nicety to a strategic necessity, and innovation can be mastered. To drive the transformation that today's times require, companies need to do six things:

1. **Prudently prune your portfolio based on potential, not performance.** In his 2001 book *Creative Destruction* Innosight Director Dick Foster noted that sometimes you have to destroy before you create. Companies need to make sure they stop some ongoing efforts to ensure their innovation efforts are focused in the right places. Future potential, not past performance, should drive pruning efforts.
2. **Take an outside-in view to inform cost cutting and opportunity creation.** When times get tough, the "more with less" drumbeat starts. But you can't deliver more with less unless you know what more means. And you can't know what more means unless you invest in deep market understanding. That same outside-in bias helps companies to identify the highest-potential opportunities and to develop the instinct to share the innovation load with third parties that are all too happy to help.
3. **Build a minor-league system for innovation.** My article in this month's *Harvard Business Review* noted how major league baseball teams rarely bring highly touted prospects

straight to the major leagues. Instead prospects start in the minors where competition is less intense, teams can provide more hands-on coaching, and gather data to determine which prospects really have it and which ones don't. Companies need to create an innovation minor league to address the critical strategic issues behind their innovation efforts.

4. **Create an innovation factory.** Today's leaders face a conundrum. The increasingly transitory nature of competitive advantage demands increased innovation. But a popular perception that innovation is risky and expensive makes innovation investments difficult to justify. An "Innovation Factory" that more reliably churns out new growth businesses breaks this conundrum. Companies that craft an innovation strategy, implement an innovation process, create innovation structures, and invest in innovation systems can dramatically increase the returns on their innovation efforts.
5. **Learn to love the low end.** In the dark days of October 2008, shining corporate stars included noted low-end lovers like McDonald's, Southwest, and Wal-Mart. Companies have to figure out how to connect with value-conscious customers in existing markets and still elusive customers in emerging markets. Doing so requires mastering business model innovation.
6. **Help drive personal reinvention.** The current generation of business leaders is largely unprepared for the challenges it now faces. Leaders need to master paradoxical demands, such as pushing for precision in core businesses and embracing uncertainty in emerging businesses. Leaders have to go back to innovation school to build the muscles required for today's times.

It only took 340 days since I pitched the idea of *The Silver Lining* to Harvard Business Publishing for these ideas to crystallize to the degree that I could describe them in fewer than 700 words (and don't get me wrong, I'm plenty happy with *The Silver Lining*, particularly since the book was written in less than 90 days to make sure it hit shelves while it was still necessary!).

As long as the next book – whatever it is – doesn't involve responding to a crisis I swear I'll heed Christensen's advice.

Day 1 of World Business Forum: Innovate Through the Crisis, Innovate Your Life

By Renee Hopkins

This past week I attended the World Business Forum in New York as one of a group of bloggers (see related reference). My real-time comments were posted to Twitter and can be found at search.twitter.com/wbf09. Here's a longer post synthesizing some of the learnings from the first day.

Bill George, former Medtronic CEO and currently a Harvard Business School professor, opened with a dynamite talk on “Leadership in Times of Crisis” taken from his book, *7 Lessons for Leading in a Crisis*. You can’t deal with any problem by putting Band-Aids on it, he said. You must deal with root cause of problem. In crisis, set aside financial plans made before, and think about getting it right for the long term.

By looking at root causes in the current financial crisis, he said, we can find the universal lessons that are common to all crises. Some of these included: CEOs should admit their own mistakes because that gives others permission to see their mistakes and increases integrity; develop personal habits such as jogging and meditation that give you resilience; dig deep for the root cause because it allows you to question assumptions that may now be wrong; get ready for the long haul; never waste a good crisis (which he noted should not be attributed to Rahm Emanuel, as it has been lately, but to Machiavelli); be ready to take the leadership role and step up to the real problem; withstand the pressure to be someone you’re not and stay true to yourself; and don’t play defense, play offense -- execute rigorously so you will be ready to go when the time comes.

What will be your legacy? George asked. “Never doubt the power you have as an individual to make a difference. I hope you have the passion to see this crisis as an opportunity to change the world.”

Former GE executive Bill Conaty then spoke about talent, explaining the four critical elements in developing and nurturing leaders: Attract, develop, assess, retain. His point: the majority of companies put most of their effort into attracting, when they should pay more attention to the latter elements, especially to developing and retaining leaders.

Patrick Lencioni, author of *Five Dysfunctions of a Team*, knocked us out with a very engaging and entertaining talk on teamwork, amply illustrated with anecdotes from his life as a father to four boys.

Most notable to me about what Lencioni presented were his comments on trust. Trust is huge problem in organizations, he said. When there’s no trust there’s no feedback. And instead of the organization being able to capitalize on people’s individuality, that individuality gets lost and brings no value.

Trust, he said, is also a key to handling conflict, which is very important: “Conflict without trust is politics. Conflict with trust is a search for the truth.”

People need to be able to disagree with ideas, because if they can’t, they will then begin to disagree with each other personally. Conflict then ferments around people and destroys relationships, and of course also destroys effectiveness and destroys innovation.

Said Lencioni: Consensus is a 4-letter word. But when people weigh in they buy in. They need to have the ability to disagree and then still commit. Great relationships built on ability to

disagree, as anyone who's ever been married knows. People passively sabotage an idea or a plan when they don't have a voice.

Lencioni offered an interesting idea: When he assembles a team to work on a problem, he gets them to share this information first: Where did you grow up, how were many in your family, what was your biggest challenge growing up? This gets people to open up and gets them to understand each other as people, so that they'll focus on disagreeing with the ideas and not each other, avoiding the fundamental error of attributing other people's negative behaviors to their characters, while attributing our own negative behavior to environmental issues (such as being stressed).

Related references

<http://us.hsmglobal.com/contenidos/wbf09-bloggers-hub.html>

What the Economy Means for Innovators: Report from the World Business Forum

By Renee Hopkins

Over the course of two days at the World Business Forum we heard from four speakers who particularly focused on the economy: David Rubinstein, co-founder and managing director of private-equity firm The Carlyle Group; economist Jeffrey Sachs, New York Times columnist and 2008 Nobel Economics Prize recipient Paul Krugman, and former President Bill Clinton (pictured).

Rubinstein started by teeing up a list of all the problems and challenges facing us: “debt, deficit, inflation, taxes, unemployment, Social Security, Medicare, Medicaid, the dollar, savings, interest rates, and energy.” Not on this list was perhaps the biggest challenge of all – complex and rapidly shifting global politics that mark a shift from a world in which the United States was the biggest power to a “multipolar world not organized around any one particular power.”

Sachs continued the bad news while focusing his comments on the enormous challenge of climate change and the potential it brings for loss of economic growth.

Krugman discussed the economic politics underlying the financial crisis we are now in. None of these speakers highlighted the opportunities to innovate hidden in the descriptions of the challenges we are facing. Opportunities await innovators who can navigate the new multipolar political world and who can bring new ideas to the table for positive change in areas like healthcare and energy, while still successfully doing business in the post-Lehman, credit-tightened economy.

A sense of optimism about the future came from former President Clinton, who was the conference's last speaker. His vision of how we can pull out of the financial mess and solve problems involves helping the poor, particularly in developing countries. If we reach out to help those less fortunate than we are, he said, we will create a rising tide that will lift our boats

along with theirs. Further, helping others is not just right but brings security. “You can't run away from consequences of things that happen a long way from you -- inequality, instability, unsustainability,” he said.

Another point Clinton made is that there is no such thing as a solution without an unintended consequence, which I believe makes a good point for an experimental, test-and-learn strategy. Experiments are good at exposing unintended consequences.

Ultimately, Clinton issued a challenge that should resonate with innovators: How do you make the most of whatever it is that you propose to do?

A Visionary Who's Always Experimenting - George Lucas at World Business Forum

By Renee Hopkins

One of the most enjoyable sessions I saw at the World Business Forum was an interview with filmmaker George Lucas. Quite striking was the degree to which both serendipity and fate were intertwined in his education and early career. Also striking was seeing film clips of one after another scene showing a way in which Lucas has innovated.

And beyond the obvious – that he’s an extraordinarily creative filmmaker – Lucas has innovated the very business of filmmaking in a variety of ways:

- Lucas was among the first to insist on getting merchandising and sequel rights. He then created the kind of movie-related merchandising we know today, and created the sequel-as-franchise idea with *Star Wars*
- Rather than limit himself to contractual obligation as a way of keeping control, Lucas simply formed his own studio
- Lucas saw digital moviemaking coming and started Industrial Light and Magic to experiment with digital filmmaking techniques that pioneered an industry.
- Lucas innovated the very sound of movies when he created THX Sound, paving the way for a day when enhanced sound became part of every entertainment experience from car stereo to mp3 player earbuds to video games with surround sound and a DVD player in your living room.

While Lucas has made his mark pushing the technological envelope, he described himself as not particularly technologically oriented. He writes in longhand and when developing filmmaking technologies often seems to cast himself almost in a “lead user” role, directing others as they do the technological work of creating the user interface. He focuses on the goal and lets others actually do the work.

Lucas seems to be unusually adept at spotting the overall direction indicated by trends, and is unusually fearless and clear-thinking as he goes about inventing ways to capitalize on new trends and technological innovations without regarding to protecting what he already has. This

is a trait shown by almost no incumbent whose businesses and products are under attack from potential disruptors.

For example, although Lucas said he “never imagined people would go through *Star Wars* frame by frame, and tweet their friends about its cinematic tricks,” he embraced DVD technology when it came out. He has embraced every type of medium, and said during his World Business Forum interview that not only has he made films for all kinds of screens, he’s now focused on learning to make films for mobile phones.

Yet he also seemed quite humble, acknowledging others’ innovations and at one point saying that he had thought that due to its complexity the *Lord of the Rings* saga couldn’t be made into movies, and that he thought Peter Jackson had done a great job at that.

Running as a theme throughout Lucas’ story was that you should keep trying, keep experimenting, move on when the experiments don’t work, and build on them when they do. He quoted one of his most famous characters, Yoda, saying “be careful what you hate – you may become it,” which is one way of saying don’t focus on negativity and failures. Another Lucas aphorism appropriate for innovators: “Nothing is a lost cause, unless you give up.”

Innovate by Fostering Serendipity: Report from the BIF-5 Conference

By Renee Hopkins

During my week of conferences a couple of weeks ago (see related reference), I attended one day of the two-day BIF-5 conference put on by the Business Innovation Factory in Providence. BIF conferences are much like the famed TED conference – each presenter or “storyteller” gets 15 minutes to tell their story, and they are encouraged to tell a story rather than simply making a presentation.

Reviewing my notes and others’ notes (from blogs and Twitter – see related references) from this conference, I see that a theme from this conference might be “fostering serendipity.” I talked to a couple of people about this at the conference and via Twitter, where one exchange with a fellow conference attendee went like this:

If we're treating innovation as a discipline, where does "fostering serendipity" fit in?

A way to foster serendipity is to avoid coming to closure. Leave options open for serendipity to happen.

The theme played itself out through a number of the second-day BIF5 talks. Science writer Jonah Lehrer, author of *How We Decide*, described neurobiological research that proves that the mind needs to be quiet and in a state of relaxation to produce insights. In a crisis, he said, “your fear won't save you. You should learn to relax and hear quiet voice of creativity in face of fear.” His

research has shown that insights come from the right hemisphere, and you can drown them out by too much focused, by the very attention you pay to the analytical act of problem solving.

Bill Buxton, principal scientist for Microsoft Research, said that creativity and invention are always context-critical and therefore social. We must be able to observe what's going on around us to be able to create insights. He makes note not just of new ideas he gets, but of the circumstances in which he got them, so he can more easily replicate them. He also said that an applied approach to research rather than a curiosity-driven approach actually reduces productivity. Another reason why curiosity rules, he said, is that innovation doesn't have a long tail, but rather a long nose. "Any technology that is going to have significant impact over the next 10 years is already at least 10 years old," he said. The first prototype of a computer mouse appeared in the early 1960s. Success at innovation will be had by those who are able to spot good ideas and develop and nurture them.

Fast Company founder Alan Webber, now author of *Rules of Thumb: 52 Truths for Winning at Business Without Losing Yourself*, suggested that serendipity can be fostered by paying attention. Keep two lists, he said, one of the things that get you up in the morning, and one with the things that keep you up at night. Pay attention to these things and pay attention to people as well. The key to "making things happen and creating value is to pay attention to other people. There are teachers – and, presumably – lessons everywhere.

Babson College President Leonard Schlesinger talked of the need for all of us to become more "intellectually ambidextrous" and proficient at the moving from "knowing" to "doing" – the hallmark of the entrepreneur "What if we took seriously the notion that we're all entrepreneurs?" he asked. He didn't mean we are all going to go out and start businesses, but rather we are all in control of our ideas and what we choose to do with them, how and whether we choose to develop them and act on them. He talked about co-creation, which often requires a bit of serendipity to pull off. His very career – moving back and forth between academics and business – if not his talk at BIF5, was a testament to taking ideas from one context and seeing how well they might work and how they change when you apply them in a different context. That's a lesson in serendipity as well – can you create the conditions of possibility for serendipity to happen by consciously looking at things from different angles?

One of the things we at Innosight often tell clients is that in order to innovate it's important to question assumptions. Once you start questioning assumptions, that fosters serendipity as well. Former George Washington University president Stephen Trachtenberg discussed that very thing when he talked about innovating the university calendar. Why the agrarian model of summer off? Why four years, or three years for law school? If you start questioning those assumptions, what new ideas can you uncover about how to innovate the university?

I've only focused on a few of the talks from a very full day at BIF-5 here. Many of the talks were also about innovating to change the world for good. All in all, BIF conferences provide a very inspiring experience that you can share as well – like TED, all the talks are captured on video

and will be posted on the BIF Innovation Story Studio site in the weeks to come (see related reference).

Related references

<http://www.innosight.com/blog/categories/conferences.html>

<http://www.businessinnovationfactory.com/>

http://www.businessinnovationfactory.com/weblog/bif5_blogroll

<http://search.twitter.com/search?q=%23bif5>

<http://www.businessinnovationfactory.com/iss>

Strategy & Innovation is published by Innosight, whose consulting and training services help companies create new growth through innovation. Building on the disruptive innovation frameworks developed by our founder, Harvard Business School professor Clayton Christensen, Innosight's approach and proprietary tools facilitate the discovery of new, high-growth markets and the rapid creation of breakthrough products and services. This new digital issue of Strategy & Innovation incorporates Innovators' Insights. If you have an issue that you would like analyzed or if you have a comment, please email editor@strategyandinnovation.com.