There Is No One True Path To Innovation

2016 MAY 15

by Greg Satell

tags: Innovation, Innovation Matrix, Strategy

Innovation has become like a religion in business today, with “innovate or die” as its mantra. When a company succeeds, people attribute its good fortune to superior innovation. When it fails, people say it lacked the ability to innovate, no matter how many new products it launched. The message is simple: you need to disrupt to survive.

So it shouldn’t be surprising that there is no shortage of people offering silver bullets. They promise a “secret sauce” that will unlock the creativity in your organization. They preach disruption, open innovation, lean launchpads or whatever else is the flavor of the day with the passion and surety of evangelical ministers.

The truth is that there is no one true path to innovation. Compare any two great innovators and they inevitably do things very differently. So if you choose to emulate one, you are in a sense rejecting the other, which may be equally or even more successful. The only real path forward is to define the problems you seek to solve and build your own innovation playbook.

Innovate The Apple Way?

There are few companies that can boast innovative success like Apple can. Products like the iPod, the iPhone and the iPad weren’t just wildly successful in the marketplace, they

redefined entire categories. If there is any company managers dream about being like, it's probably Apple.

And Tim Cook, Apple's CEO, has very clear ideas about what it takes to create breakthrough products. "It's people who care enough to keep thinking about something until they find the simplest way to do it," he says. "They keep thinking about something until they find the best way to do it." Sounds like good advice.

He also has very clear ideas about what not to do, such as creating innovation labs, which he thinks is a really bad idea, going as far as to say, "A lot of companies have innovation departments, and this is always a sign that something is wrong when you have a VP of innovation or something. You know, put a for-sale sign on the door," he says.

That sounds like it makes sense, but then you look at Google and that's exactly what they've done with Google X. Microsoft and IBM also have research divisions and have successfully innovated for decades, across multiple technology cycles. Apple, meanwhile, still relies on the iPhone, launched in 2007, for roughly two thirds of its revenue.

Which Technologies Are Transformational?

Peter Thiel is a true Silicon Valley icon. An original member of the PayPal Mafia, he's become one of the most powerful investors in tech, giving early backing to blockbuster companies such as Facebook, Yelp and LinkedIn. Yet he has become unenamoured with technology lately, saying that we wanted flying cars, but got 140 characters instead.

His point is that while earlier technologies, like the space program, the personal computer and the Internet were transformative, today's are incremental at best. "You have dizzying change where there's no progress," he says.

Yet I would argue that 140 characters are actually better than a flying car. Sure, we're not scooting around like the Jetsons, but we clearly live in a world vastly transformed. While earlier technologies allowed us to master energy and matter, newer advances are giving us something far more valuable, unleashing the power of human potential.

Consider that the journal *Nature* recently noted that the average scientific paper today has four times as many authors as in 1950. The work they are doing is also far more interdisciplinary and done at greater distances than in the past. Communication technologies have helped make that possible and it's powering entirely new fields like genomics, nanotechnology and robotics.

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Those, in turn, are creating new possibilities, such as curing cancer and creating a new energy revolution. It is often technologies that seem useless at first that end up becoming the most transformational.

Should You Listen To Customers More—Or Less?

Henry Ford offered cars in any color "as long as it's black." Steve Jobs, pointed out that "A lot of times, people don't know what they want until you show it to them." Many great innovators are iconoclasts, who forge their own path. After all, how can you create something truly new by asking people their opinions about what exists today?

Yet IBM's Chief Innovation Officer, Bernard Meyerson, believes customers are an important part of the innovation process. "You're never certain as to what's going to be commercially fantastic," he told me. "That's why we take an unconstrained approach to research and innovation. We want to know about everything that can help us solve a problem."

"Our customers can't tell us about a future that doesn't exist yet," he continued. "But they can tell us about unresolved problems and we can get to work on them. Addressing a really grand challenge like Watson can begin 5 or 10 years before the result is seen in public. It was a science project, but with business problems in mind."

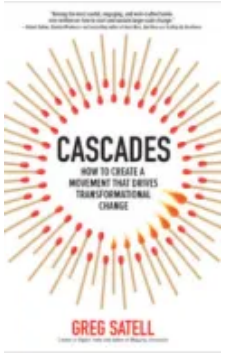
These widely divergent views create a dilemma for anyone looking to innovate. Henry Ford and Steve Jobs built revolutionary new products. IBM has innovated for over a century, consistently creating new businesses to replace old ones that run out of steam. All, in their own way have been enormously successful. So which should we follow?

Defining Your Innovation Playbook

Clearly, searching for "one true path" to innovation is nothing more than a distraction. It is more likely to set us on a wild goose chase and waste enormous amounts of time and money than anything else. What we need is to *identify our own path to innovation* and then gather the tools we need to get where want to go.

As I previously explained in *Harvard Business Review*, the best way to move forward is to map the innovation space by asking two basic questions:

1. How well is the problem defined?: Some problems we are able to define fairly narrowly. For example, when Steve Jobs set out to create the iPod, he defined it as "1,000 songs in your pocket." That made the path to the solution clear as well, he needed to identify



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someone to supply a hard drive with the right technical specifications. After that, creating the iPod was mainly a matter of design, which was a core Apple capability.

Other problems, such as how to create next generation batteries or new chip architectures are much harder to define, because no one really knows what the end product will look like.

2. Who is best placed to solve it?: Once Jobs defined the iPod problem, it was clear that he needed to find a disk drive manufacturer who could meet his specifications. But other times, the proper domain isn't so easy to identify. Often, the solution requires a synthesis across various domains.

These are relatively simple questions, but they allow us to map the innovation space and narrow down our options considerably with an innovation matrix.

Once we've mapped the innovation space, we can narrow down our choices even further by taking into account the capabilities we have available to us. Firms like IBM and Microsoft, for example, invest heavily in basic research. Others firms deploy different strategies to identify and access important discoveries in the academic world.

In the case of the iPod, while Steve Jobs had defined the iPod's hard drive problem to exact specifications, Apple couldn't solve it alone and needed to take an open approach. Other aspects of the iPod, such as software and design, were areas where Apple had strong capabilities and so were more of a typical engineering problem.

Some companies, such as Uber and Airbnb, find previously undefined solutions for existing technology with well-defined domains. They push the limits of the marketplace rather than technology and are able to disrupt existing firms by doing so. These disruptive innovators tend win with new business models rather than superior technology.

So who are the true innovators? Clearly all of them are, but they work off of very different playbooks that are geared to both their internal capabilities and the markets they seek to serve. Some, like Google and IBM, create breakthrough technologies. Others, like Apple, recombine existing technologies to design superior products. Still others disrupt the marketplace with new business models.

We need to leave to leave behind the innovation fairy tales about and deal with innovation as it really happens. Coming up with the "next big thing" is less a matter of epiphany and more a matter of identifying the right set of tools for the right job.

– Greg

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Bill Van Eron PERMALINK

May 15, 2016

Hi Greg, Thanks. Big topic. After a career that circled creativity and innovation, discussions about innovation including this blog tend to offer at best – half truths. One can liken mapping innovation to mapping the human DNA system. The word itself may be too big to communicate its real value when referencing the ability to find specific paths to innovation within your own business world or wherever. Dan Pink's book "Why right brainers will rule the future" was helpful in articulating it as a mindset and skills versus as a process anyone can follow. The process people are certainly having their shot at it now and there is value in some scenarios, such as new product development. But I may be an anomaly as I rarely see anyone talk about the innovator's mindset. Clayton Christensen spoke well about the Innovator's Dilemma. But I would not say his or Gary Hamel's innovation management firms have solved the grander question of what does it take from where one really is, to be innovative. Most have set formula's or processes and the trained creative human brain is so much better than that. Your point about CIO's or VP of Innovation was challengeable as Christensen did a nice job explaining why a company's focus on today along with all the short-sighted trappings, makes it difficult to identify and challenge status quo patterns that block tomorrow. Add objectivity and it happens faster and clearer.

I saw how HP suffered by not grooming others to think more consciously and implement with a connected conscience as their founders did beyond any other before or after. I took that seriously and even though I operated in the middle ranks, there is no denying the impact one has when they not only do research and see dots few others see, but know how to connect

them to a greater whole. I did that consistently my last 10 years there and yes, no two applications were the same and all accounted for 4X-10X managements highest expectations…but after folks like myself left, and innovation had fewer champions willing to put their jobs on the line, you get what we see in way too many orgs today – over-hyped, moderately conceived innovation if at all.

While its hard to predict the future, I will go as far as to say one with the right mindset and validation process can predict market value intersections and help companies to deliver that value by that point. I have over 5 examples I led that were spot on. Many are finally seeing the light of alignment today 20 years after as "new thinking". That's stupid.

As a small example, look at TV – most people see the cable solutions as greedy and yet current competition is still lacking. But that is changing as newer entries (Amazon, Apple TV, Netflix, Digital Antenna's) start increasing capacity and offering lower, customizable price points. The Comcast's and Direct TV's of the world know their customers will bail in droves, yet they continue to milk out their advantages versus earning real market regard now. As a bigger example, it is obvious our government is a broken system. Fixing it is not as hard as getting those that resist as a system out of power. Same is true of resistant corporate leaders.

I asked a high level exec the other day what he thought his company needed. He played it out perfectly with greater emphasis on people, internal/external credibility and smarter ways to work and see opportunities which most companies have a blind eye to. But this exec felt his company was not yet ready to dance and most of it traced to closed cultures, limited accountabilities to change and folks refusing to make waves if retirement was within 2-3 years.

Innovation is as vital as the people that make a company viable. It's very human yet benefits when technology enabled. It is stopped entirely when people in power look the other way, resist or force it into how business is always done patterns.

As always I appreciate your thoughts on business, leadership and functions that can matter. This topic is a huge one that we have hardly

scratched the veneer on. That's a shame as if all the chest pumping, false or limited value efforts and weak support systems had better champions, I know what would happen and why it would benefit more. The one system I found seemed better with regard to adding science to my trained brain methods, so I will help but I see what others are working towards in other countries and we better get serious fast.

Greg PERMALINK

May 15, 2016

Thanks Bill. I think the metaphor of recombinant DNA is a good one. I was recently talking to Dharmendra Modha, who leads the team working on neuromorphic chips at IBM. He said it was like the children's story "Stone Soup" in that you start out with nothing and then borrow something from here and borrow something from there until you've got an entire soup!

– Greg

Hismael Doval PERMALINK

May 15, 2016

Hi Greg! Thank you for your insightful post.
While I understand the difference between basic and sustaining innovation, I would like to get your view (definition) of both breakthrough and disruptive innovation to ensure I clearly distinguish their differencies and similiarities, if any, other than the "prefered" intiatives that are reflected in the table included in your post.
Many thanks in advance for your reply !
Hismael

Greg PERMALINK

May 15, 2016

That's a good question Hismael. I explained it in more depth in the original article I linked in, but I didn't have as much space for here.

In a nutshell, "breakthrough Innovations" are problems that are very well defined, but not easily solved, which is why a multidisciplinary approach usually works well. Disruptive innovation, in the context of this framework, are well understood solutions that are looking for problems, so are more suitable for an iterative,experimental approach. (I should note hear that this definition is vastly different than Christensen's, but practically it amounts to the same thing).

For example, the problems in battery technology are very well defined, but extremely hard to solve. On the other hand, platforms like Uber are well understood, but it's not so clear which problems they can solve well. So there are many "Uber of X" startups, but most fail.

This is a very important point, because companies often set up innovation labs that are well suited to identifying profitable uses for disruptive technologies, but not very good at solving problems. At the same time, research divisions are notoriously bad at identifying use cases for promising technologies. You need the right tool for the right job!

I hope that's helpful.

– Greg

David Ricketts PERMALINK

June 14, 2016

Hi Greg,

Great post, i have recently written a post for linkedin about how ebitda killed innovation – it would be interesting to hear your thoughts on how

some businesses find it difficult to balance innovation and market-driven targets? I have dropped the link in below:

https://www.linkedin.com/pulse/how-ebitda-killed-innovation-david-ricketts?trk=mp-reader-card

Greg Satell PERMALINK

June 15, 2016

Interesting post. Thanks Daniel.

– Greg

thinkdisruptive PERMALINK

September 7, 2016

Your characterization of disruptive innovation bears no resemblance to the definition articulated by Christensen, and “practically” it’s not at all the same thing.

If an innovation is a well-understood solution looking for a problem, then it will be an accidental disruption at best, and more frequently (90% of the time) a complete market failure. Disruption that is deliberate starts not with a solution, but with an understanding of what the user wants to accomplish (outcomes) and how success is measured in achieving that, but more importantly, it provides a unique way of accomplishing that (business model, which often includes new processes or technology) and with that a unique value proposition that competitors can’t easily match. The solution is not well understood — if it was, others would already be doing it, and there wouldn’t be a market to disrupt.

Moreover, disruption rarely comes from an iterative, experimental approach. This sounds much more like Lean, which is what you do when you don’t have a clear idea of the problem you’re trying to solve and how the user views success. As with almost every product, there may be iteration to refine and perfect the solution for product/market fit, but this

is not the core process of (disruptive) innovation, and I'd be hard-pressed to come up with examples of any product that achieved market disruption that was developed this way.

By the way you describe Uber, it appears that you don't truly appreciate what their innovation was or why it disrupted and is disrupting (many) markets. Hint: it has nothing to do with a ride-hailing app. That's the implementation, not the disruptive innovation, and that's why targeting the "uber of anything" is generally misguided and usually fails. Again, it belies a poor understanding of disruption. The app technology may be well understood, but if the embedded process and business model that creates the disruption was well understood, then the opportunity for disruption would not exist.

In general, disruptive innovations do not fit any of the parameters you articulate (and the matrix in your article doesn't make sense — it mixes apples and oranges). Disruption theory is a model that describes which competitor wins and why, not a style or type of innovation. Specifically, disruptive innovations can be breakthrough or radical or incremental. They can be discovered by accident, through open innovation, via Lean methodology, or by a lone innovator tinkering in their garage. They can involve technologies never before seen, or like Netflix vs Blockbuster, use the lowest of low tech (the post office) and only a novel business model to disrupt.

Importantly, there is no such thing as "disruptive technology", despite the widespread misunderstanding by media and pundits. No technology is inherently disruptive, but rather is dependent on the right business model to disrupt (and as in the Netflix example, may not have any new technology at all). Consider a simple example: if Spotify cost $100/month, would they even still be around, let alone disruptive?

Most companies are completely inept at disruptive innovation. In large measure, that's because the existing business model and operational structure treats anything potentially disruptive as if it were a virus, and the corporate antibodies kill it off before it has a chance to succeed. And, the notion that a research division should identify use cases for promising

technology is completely backwards, and it's the reason most innovation projects and new product development fails such a high percentage of the time — it's like trying to force a square peg into a round hole. You should be creating products for applications, not applications for products.

Lastly, your description of the category "battery technology" subtly belies the key to your misunderstanding. If you are innovating battery technology, then you are almost certainly doing sustaining innovation (unless you've found a patentable process that enables you to create them at 90% lower cost). If you are doing something disruptive, you are going to be looking at the problems and opportunities of energy storage, not battery technology. You can't do anything disruptive, or especially innovative, by presuming the solution to the problem.

Greg Satell PERMALINK

September 7, 2016

Thanks for sharing your thoughts Paul.

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