



December 16, 2009

Volume 7, Number 21

Welcome!

This week world leaders at the United Nations Climate Change Conference in Copenhagen are discussing possibilities and solutions for the problems posed by climate change. Innosight's Mark W. Johnson and Josh Suskewicz, whose recent "Harvard Business Review" article explored the ways in which systems-level innovation could help the clean-tech industry develop more quickly, have applied some of that same thinking to climate change. Their idea is presented in our lead article: The U.S. should build a "green city" somewhere in the Midwest, a systems-level experiment in innovation similar to Masdar, currently being built in Abu Dhabi.

In this issue we also feature another Mark W. Johnson article, this one focused on the ideas in his upcoming book, "Seizing the White Space: Business Model Innovation for Growth and Renewal." In "Is Your Company Brave Enough for Business Model Innovation?" Johnson discusses why business model innovation is critical to master, and why some companies won't be able to master it.

Finally, we offer a lighter piece from Julia Silverman, applying the lessons she learned as an Innosight intern to her startup venture, sOcket.

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

— Renee Hopkins, Editor

Feature: Copenhagen: Why the U.S. Should Build a Green City

Climate change brings complex problems that are best solved by systems-level experimentation

By Mark W. Johnson and Josh Suskewicz

The conversation at the Copenhagen climate conference is all about policy (see related reference). But regulation won't stop global warming by itself. Nor will simply spending money on clean technologies. In the U.S., President Obama has earmarked a half billion dollars of initial funding for a breathtaking array of renewable technologies. This looks like bold action, but it

isn't nearly bold enough. We need to be thinking on a far, far grander scale. With its financial and intellectual resources, the U.S. needs to lead this charge. But instead of backing individual technologies, the country should build a whole city of technologies.

What if we were to go into an area of our country that's seriously in need of reinvention — the Midwest — and build a city that would offer a living, breathing opportunity to create an entire clean-tech infrastructure? That's not nearly as utopian as it sounds. Here's why.

Moving from an oil-based economy to one fueled by sustainable, clean power requires more than a technology shift. It requires an infrastructure shift — a concept we explored in a recent *Harvard Business Review* article (see related reference). Technologies don't replace technologies — systems replace systems. Fossil-fuel powered transport isn't a technology; it's a system comprising countless interconnected businesses (and business models), markets, government policies, and, yes, technologies. Replacing gas-powered cars with electric ones isn't a matter of simply swapping in new engines. It requires building the entire system that will make electric transport economically viable. Entrepreneur Shai Agassi is, at this very moment, building a comprehensive electric-vehicle infrastructure in Israel that encompasses not just the cars but the charging stations and cutting-edge power management grids and software such an infrastructure requires — a system.

Back to the green city. In the United Arab Emirates, the government of Abu Dhabi is building a clean-tech system of its own: Masdar (see related reference). It's a city entirely powered by sustainable technologies, and it's their effort to create the Silicon Valley of clean tech. Masdar is being built on government-donated land, bolstered by business-friendly tax incentives and buoyed by \$15 billion in government funds. It is slated to complete its first neighborhood by year's end, which will be anchored by a clean tech-focused university that just launched its inaugural class. The first commercial tenants are set to arrive in 2012; General Electric has already signed up.

In the scheme of things, \$15 billion isn't an outrageous amount for a government to pony up to launch what figures to be one of the primary industries of the 21st century. Indeed, the Obama administration has pledged more than \$100 billion to clean tech efforts; China, which is also making its own forays into eco-cities, is spending \$200 billion; and the G20 industrialized nations have pledged upwards of a combined \$400 billion.

The U.S. should take a small chunk that \$100 billion and apply it to a Masdar-like effort of its own. Imagine what a focused, coordinated effort among the government, private sector, and academic institutions could do. Rather than build from scratch, the government could use this grand-scale opportunity to revive a declining industrial city. What if the U.S. set up a smaller version of Masdar in the Midwest, say within Detroit, with the aim of creating its own Silicon Valley of clean tech?

A Midwest Masdar would go far beyond government funding of particular technologies. It would, for example, encompass construction of a sustainable sub-city replete with fully

integrated clean-tech transportation, waste disposal, and energy production systems. It would involve government and private-sector support of university research (at, say, the University of Michigan), and corresponding faculty and student involvement in the implementation of new systems. It would entail government support for participating companies in the effort via land grants and tax breaks. And it would allow for the incubation of a wide array of new technologies and business models in real-world settings.

We're not suggesting this as the silver bullet of the clean tech revolution. But we are arguing that targeting some of the already-earmarked funds to a systemic approach would be smarter than devoting the entire amount to a thousand scattershot, uncoordinated projects. The lessons from such an integrated effort would hasten what will surely be a complicated transition to an as-yet-uncertain future. It's just the sort of progress the U.S. needs to revive the rust belt, catch and surpass international competitors in the next great industrial arms race, and lead the world toward a sustainable future.

Related references

<http://en.cop15.dk/>

<http://hbr.harvardbusiness.org/2009/11/how-to-jump-start-the-clean-tech-economy/ar/1>

<http://www.masdar.ae/en/home/index.aspx>

Feature: Is Your Company Brave Enough for Business Model Innovation?

Business model innovation requires the courage to conceive of entirely new ways to turn a profit

By Mark W. Johnson

A recent *Economic Times* story detailed IBM's new "spoken Web" technology (see related reference), which will allow users to browse the Internet and access information by speaking in their local language without having to type or otherwise use the computer keyboard. An IBM India lab is currently developing the technology and performing real-world tests with rural dairy farmers in India. The idea is that if IBM can remove barriers to accessing its enterprise resource planning technology, Big Blue may be able to unlock a large market selling ERP software (see related reference) to companies that source dairy and other foodstuffs from rural Indian farmers.

This sounds like a technology problem. After all, using technology to create the opportunity to sell to nonconsumers — that is, people who have been totally shut out of a market — is a classic way to build substantial new growth. But in reality, this is a business challenge.

To crack this nut, the technology needs to be delivered to market with the appropriate business model — and there's no guarantee that the right business model is the one IBM is currently using. The business problem confronting IBM, then, is whether it needs a different model to realize this opportunity. If so, IBM must figure out a way to seize what I call its "white space

beyond" — that is, its opportunity to open up an entirely new market with an entirely new business model.

IBM has done this before many times, having successfully moved, for example, from the leasing model it used to sell its fabulously costly mainframes in the 1960s to a purchase model for its lower-end mainframes and minicomputers in the 1970s, and — far more radically — to a retail model for its personal computers in the 1980s.

IBM took a lot of flack for being something of a technology laggard in the PC market, preferring to be a fast follower; it didn't get nearly enough credit for being on the cutting edge of business model innovation.

Here was a company that owned more than half the computer market setting up a renegade operation in Florida full of young employees in polo shirts (far from its headquarters in cold, formal, famously white-collar Armonk, New York), building what Ken Olsen, CEO of then-number-two computer maker Digital Equipment Corporation (see related reference), thought of as little — and unprofitable — toy computers.

But IBM understood that this new technology could be profitable if the company developed an innovative business model to go along with it — one that offset the radically smaller profit margins with much greater volume, generated through a lower cost, retail sales channel. For both DEC and IBM, the PC represented a tremendous growth opportunity, but only IBM understood that the real challenge was business model innovation, not technological innovation. And where is DEC now?

As we come out of the Great Recession facing the possibility of permanently lower demand in the credit-deflated West and look for growth to the millions of nonconsumers in India, China, and the rest of the developing world, I would argue that every multinational finds itself in the same position as IBM was in 1980. That is, every company needs to ask itself: Can I reap those opportunities with my current business model?

I'll go out on a limb here and predict that for most western multinationals, the answer will be no. Developing economies will not support the margins that most of their current business models require. These opportunities will be squarely in their white space beyond.

The question is: Will these opportunities be just "beyond" these companies' markets — or will they also be beyond their imaginations?

Business model innovation (see related reference) takes a certain fiscal courage — courage to conceive of entirely new ways to turn a profit that may involve different margins or different sales channels or different overhead structures. As DEC's fate shows, these challenges are far harder to meet than purely technological innovation ever was.

I'll even go a little further out on that limb and suggest that there are a lot more DECs out there than IBMs. The question I won't venture to answer here is this: Which is your company?

Related references

<http://economictimes.indiatimes.com/articleshow/5093314.cms?flstry=1>

http://en.wikipedia.org/wiki/Enterprise_resource_planning

http://en.wikipedia.org/wiki/Digital_Equipment_Corporation

http://en.wikipedia.org/wiki/Business_model_innovation

<http://www.seizingthewhitespace.com>

Inno-Learnings

Innovation lessons from a young entrepreneur's internship

By Julia Silverman

My time as an intern at Innosight this past summer was uniquely illuminating, since I myself am an entrepreneur. I have been working for the past year with a team of four Harvard undergrads to develop a business around a portable generator device called the sOcket. It's a soccer ball with a little something extra: the capacity to harness the kinetic energy from game play for later use as electrical power. An outlet lies flush with the ball's surface so that users can plug appliances directly into the ball.

The sOcket is aimed at the developing world where electricity is unreliable (see related reference), if not totally absent. So, before I even knew what "disruptive innovation" really meant, our sOcket team was already gunning to serve nonconsumers – those who don't have financial or logistical access to even the most basic version of a product.

This summer at Innosight, not only did I collaborate with my case team to implement the firm's IP, but I also worked to reconcile my "inno-learnings" with my personal experience as an entrepreneur. The truth is, the process of innovation can be unnecessarily rough—and I don't feel particularly partial to the dogma of "whatever doesn't kill you makes you stronger." I'm convinced that, had I possessed the few critical bits of Innosight knowledge I describe in these inno-tips, I could've been spared tons of needless grief at the outset of my journey as an entrepreneur with the sOcket team.

Inno-tip 1: Don't try to convince nonconsumers to buy what they don't want.

Everyone on sOcket's innovation team has experience working and living in the developing world, particularly in sub-Saharan Africa and South Asia. Our familiarity with our target consumers' environment, gained through much direct observation, allowed us to identify a host of critical jobs-to-be-done, including:

- Allow families to continue working after dark

- Charge tech devices like cell phones at home instead of having to walk 3 to 4 hours to use a “charging station”
- Provide a sustainable, smoke-free source of light and energy
- Keep children off the street
- Make energy retrieval fun, not a chore

The sOccket team has been iterating our designs and business model based upon the results of prototype testing and field interviews in South Africa conducted this past summer. We’re still working to determine which of the jobs listed above is the “stickiest.” It is not a question of which jobs the sOccket can do, or even which jobs the sOccket does best. In the context of entrepreneurship and beyond, we never have the luxury of being able to tell consumers what they need. So it is a matter of iterating around which jobs the consumer wants done the most.

Inno-tip 2: Wherever there is a customer with an important, unsatisfied job, there is a job-based opportunity.

Though a world powered solely by sOcckets is certainly fun to think about, the device is intended to be a short-term fix for a problem that demands long-term solutions. At the national scale, current efforts to supply electricity to unlit areas of the developing world are enormous state-regulated productions which, while critical, are slow and unreliable. Communities need solutions today, not in 10 years. In short, until the electrical grid reaches them, nonconsumers need a product that can improve upon total darkness. That is where the sOccket comes in.

Since our device was designed with a very specific context in mind, the answer to the question, “Is the sOccket a good product?” is necessarily, “It depends.” For instance, engineers who hear about the product often insist that the sOccket won’t be able to provide enough energy to power anything useful. Well, the sOccket’s utility depends entirely upon one’s definition of “useful.”

The purpose of the sOccket is to provide very basic power for very basic tools. We’re looking to charge cell phones, not supercomputers. Our team’s prototype testing showed that 10 minutes of constant kicking provided approximately 3 hours of LED lighting (and we are looking to improve that amount). Being able to offer even a few extra hours of light after sundown is good enough for current nonconsumers in rural villages and urban slums. Hence, the sOccket is a fantastic product for a very particular circumstance.

Inno-tip 3: Don’t over-innovate.

The sOccket’s innovation team has, in my view, two critical assets. First, none of us is an engineer. Our simplistic technological outlook keeps our designs clean and our expectations for energy-output realistic. We have no illusions of technological grandeur, that’s for sure. Second, we have a robust knowledge of life on-the-ground in the developing world. Our collective experience helps us to address critical assumptions that might needlessly hinder others.

For example, we knew not to be too concerned about whether the movements of the sOcket mirrored exactly those of balls used in regulation play, since our team members had all seen kids in developing regions playing soccer with anything from bundled-up plastic bags to old shoes. In the words of my teammate, “If it rolls a little to the left, it’s okay.” Confronting assumptions head-on with observational data has allowed us to move forward more efficiently and avoid overshooting our consumers.

Inno-tip 4: Look at the circumstances rather than the demographics.

The sOcket team identified a huge potential market for cheap, clean, simple, off-grid, immediate-use energy solutions for the developing world. We found there were few energy companies catering to the world’s most impoverished communities. As such, our innovation exploits a classical case of asymmetric motivation: the sOcket does what our would-be competitors don’t want to do.

Inno-tip 5: Your first idea will always be wrong.

Before hitting upon the idea for the sOcket, our innovation team had been working tirelessly on a project related to “massively multiplayer online games” related to the developing world. After encountering seemingly endless obstacles, we flirted with the idea of throwing in the towel altogether. Fortunately, the weakness of our ideas was heavily outmatched by the strength of our team’s commitment to success. We eventually realized we could salvage our project through iteration.

We shifted our focus to capitalize on the popularity of the most “massively multiplayer game” of all: soccer. As the most-loved and -played sport in the world, we concluded that soccer is the ultimate vehicle to address the needs of the developing world. Our team’s flexibility allowed us to make this critical leap. Rather than continuing to focus on ways to create brand-new consumer behavior, we began thinking about how to amplify existing behavior in ways that might support innovation.

Conclusion

Though I have made it through the sOcket’s evolution thus far, familiarity with certain tenets of the innovation process would have served me well when the project was in its infant stages 15 months ago. Having the five Inno-tips above in my back pocket might not have had a huge impact on the sOcket’s physical specifications, but they certainly would have given me a much-needed dose of confidence during those awful, soul-crunching moments of entrepreneurial doubt. Fortunately for me, the work of an innovator is ongoing. I’ll certainly have the chance to apply much of what I have learned at Innosight to my work with the sOcket in the none-too-distant future.

Related references

From the InnoBlog

'It's Like Netflix For. . .'

By Krystin Stafford

There's a popular adage that "imitation is the sincerest of flattery." Well, it amazes me how often I hear "it's like Netflix for..." as a new company is being touted as innovative because it has borrowed (what it thinks is) the Netflix model. Generally speaking, it's a great idea to consider borrowing a successful business model from one industry to apply to another, but there needs to be thoughtful consideration as to what the core of that business model is, so that it is not misapplied.

The Netflix model is a great example of business model innovation, which disrupted the entire movie rental market by providing customers with convenient, inexpensive entertainment. The model has resulted in numerous imitators, renting children's toys, audio books, dresses, magazines, and beyond (see related references).

One of the big risks that many "it's like Netflix for..." companies take is that they have borrowed some of the processes (e.g. creating rental queues online and home delivery of products) without thinking of the business model as a whole. The success of the business model depends on the integration of the customer value proposition (CVP), profit formula, and key resources and processes (see the Four-Box Business Model Framework related reference). At the heart of the Netflix model is the customer value proposition: convenience and cost savings. Careful consideration should be given to what the benefit to the customer really is, in terms of what important and unsatisfied jobs are being addressed. For instance, if not convenience or cost-saving, is the value in time-saving or variety?

A big red flag that a model is being misapplied is if there is a weak customer value proposition, because the tradeoffs for the target customer are too high. Think for a moment about something that you own that you would hate to rent, or about something that you would want to select in store, not select over the Internet. Chances are the things that first come to mind are likely not a good fit for the Netflix model. When it comes to borrowing business models, it simply is not enough to think that because it worked in one industry it will work in another.

Could these interpretations of the Netflix model work for some of these companies? Sure. It's too early to say whether these businesses will individually or collectively succeed, but here are a few questions that entrepreneurs looking to borrow a business model should think about:

1. Is whatever you are borrowing going to help fulfill your target customer's important and unsatisfied jobs-to-be-done?

2. Will this model be unique to your industry? If not, are you at risk for becoming just another “me-too”?
3. What are you really competing against? Will your would-be-customers be willing to accept the tradeoffs your model presents?

If done properly, drawing from business model analogies in different industries can be a way to spur [business model innovation](#) (see related reference). Consider which aspects of a business model you are borrowing and whether those fit with your vision and the customers for whom you are trying to create value.

Related references

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

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

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

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

<http://www.seizingthewhitespace.com/glossary/3#letterf>

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

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.