

At the Court of King Henry

A visit and conversation with Henry Chesbrough on all things open innovation and the challenges of sustaining the open business model.

by Scott Wilson

The Faculty Club at Berkeley is a rather discreet place. Its dark oak hallways are punctuated with stained glass windows, with a smattering of stags head trophies jutting out from the walls. The overall impression is that of a gentlemen's hunting lodge from a bygone era. The club, according to my host, has been around since the turn of the last century. It exudes a quiet elegance through its exposed beams, leather Chesterfield chairs and ornate fireplaces. I am here to meet Professor Henry Chesbrough of the Haas Business School and the originator of the "Open Innovation" movement with three highly successful books on the subject - the most recent from 2011, which focused on open innovation in services.

Since Chesbrough's first book on the subject was published in 2003, the use of Open Innovation (OI) has steadily grown to become a widely accepted, and much-lauded, model of innovation management. At the very highest level, the model was founded on the theory that companies should become adept at looking beyond their own four walls to trade unused intellectual property and source new ideas from third parties back into their own organizations in order to stimulate their stagnating innovation processes. Stories abound on how effective the "inside-out to outside-in" theory can be at, among other things, kick-starting sputtering engines of innovation - Procter and Gamble and IBM spring to mind as two high profile successes. But rather than go over old ground, I want to hear more about how the model has evolved, where the challenges are in sustaining its effectiveness and why some companies fail in getting it right.

Over lunch in the club's bustling dining room, I begin our discussion by asking him how he arrived at Berkeley and to explain the genesis of the OI concept. Chesbrough recalls that he began his academic journey at Yale and then worked for a couple of years before moving to California for the first time in 1981 to begin an MBA at Stanford. Soon after graduation, he entered the nascent personal computer industry and went to work for Quantum, a disk drive manufacturer.

"That's when the disk drive industry was a good industry to be in and I stayed at Quantum until 1990 as an employee, and until 1995 as a consultant," he said. "During that time Quantum grew tremendously and it was a wonderful experience for me personally and we had great success as a company and for the shareholders. But, after my stock options vested and I had a new baby with my wife, it was clear the disk drive industry was not going to continue to be such a wonderful industry to be in and I started to think more broadly about what would I like to do if I wasn't doing this. And, that's when the idea of going back and getting a PhD really came into my mind. So I went to Berkeley for my PhD and following the birth of my second daughter, got an appointment at Harvard where I taught at the business school for six years.

I then came back to Berkeley in 2003 when it became clear that I was not going to get tenure at Harvard and I was going to have to leave.”

The waiter interrupts us to take our order. I ask Henry what’s good. “You know because I come here fairly often I’ve sampled widely ... I’m the kind of person that – I don’t know if this is true of all people who study innovation - but I like variety. I tend not to be the person who has the same thing for lunch every day.”

Ok, so you like to mix it up a little?

“Yes, which I think is useful when you are studying innovation.”

Order taken, we begin to discuss the U.S. mobile sector and the seemingly unrelenting market turbulence forcing the once traditional wireless sector to open up and provide new pathways for new players to enter the game. We talk about how OI concepts are being used to create and capture value in this hypercompetitive environment and how the challenges faced by large corporations to sustain competitiveness sparked the original thinking on OI.

“My own thinking about open innovation started inside the large corporate laboratories of companies like AT&T with Bell Labs, with Xerox and their Palo Alto Research Center, with IBM and the Watson Research Center, GE and the labs it has in Schenectady and so on,” he said. “So, I actually started from inside large companies, if you will, while developing my thinking. Then following the break-up of AT&T in the 1980s, I began to study parts of that business that were split off. Among the companies that I followed was Lucent, the telecom equipment company that got the bulk of what was left of Bell Labs. I actually spent a fair amount of time there and followed, among other activities, an internal venture capital group they set up to commercialize ventures out of Bell Labs Technologies giving Lucent an alternative pathway to the external market.

“So Open Innovation began from close observation of what companies actually are doing and then trying to step back and reflect on what they were doing in relation to what I’d read as a PhD student and then as a professor in what we were teaching our students. And, you know Professor Michael Porter’s work was very powerful and influential in the ‘80s and the ‘90s about strategy. It was really a model, you could say, of closed innovation where you figure out what your key strategic assets were and you either went low cost or went for differentiation or you found a niche. You were constantly looking for ways to compete against the other guy. And, as I saw what was going on in the industry labs it was clear that certainly a lot of that was happening but there was a lot of other stuff going on that his model didn’t really explain very well at all.

“I probably spent the most time at Xerox and its Palo Alto Research Center. One of the projects I did there tracked 35 projects that started inside of Xerox’s labs and got to a certain level of development, but then internal funding for all these projects was stopped. I was curious as to what happened to these projects subsequently because in many cases Xerox proactively encouraged the employees working on them to leave and take them to the external market because once these people left the lab, budget was freed up to be redeployed for something that was more strategic and promising in their core business.

“One of the things I discovered was most of the 35 projects, when they went outside, subsequently failed. But, a few of them succeeded and actually became publicly traded companies and, if you added up the market value of those publicly traded spinoff entities it more than exceeded the value of Xerox’s own market value. So that really made me think how to better understand this and what you would do both in a large corporation like Xerox and in a small corporation or if you were a policymaker looking at this. How would you think about a system that was more open and more distributed? In the example of Xerox, their core business models were doing a good job of commercializing certain technical projects that really fit well with their core strategy. But, then you also had these other projects that didn’t fit with the core but when they exited to the outside they found different business models that made them much more attractive as standalone entities. So that became the genesis really of the thinking that became Open Innovation.”

At this point, Chesbrough emphasized that even from its inception open innovation was not just about technology and R&D processes. It was more about the business model issue than people originally realized. This was the motivation for his second book, *Open Business Models*, published in 2006.

“In subsequent work, I thought about what if the business model wasn’t fixed, what if you could actually innovate the business model ... So, instead of Xerox, which was sort of destined to pick certain product ideas that fitted with the core strategy and really had no way to handle the ones that didn’t fit, now we might think about business models that might be more adaptive. And, in some cases, might actually – if an idea didn’t fit the current strategy - change the core business model so that it might fit down the road.”

To Chesbrough, the early logic behind the original concept remains consistent throughout his later work and is reflective of the shifting patterns of corporate value generation, particularly in the area of services.

“Xerox now gets more than 25 percent of its revenues from services. IBM is another classic case. A lot of its revenue is generated from services. Company after company is getting more and more of their business from services. In some cases what’s really happening is the business model is shifting. So for example, a GE aircraft engine can be sold for tens of millions of dollars to an airframe manufacturer. That same engine can also be leased on a so-called “power by the hour” program to that airframe manufacturer. In the first case it’s a product transaction. In the second case it becomes a service. And, with the latter what benefits GE is all the aftermarket sales and service spare parts, etc., that accrues during the 30 year life of the engine and operations. So now all that comes back to GE, whereas with the first case when GE sold the engine, they were in competition in the aftermarket with all the former GE technicians that spent 10 years at GE and then decided to go out on their own. They’ve got all the tools. They’ve got all the manuals. They’ve got all the equipment, the training but they don’t have GE’s overhead. So they’re undercutting GE, twenty, thirty percent on price, and it’s the same people. So this is the way to kind of bring that thirty-year aftermarket back into the fold of GE.”

So far so good I'm thinking, but how about exploring the tougher side of OI, *the making it work on a regular basis* side. Does he think that the many definitions of "open" are ultimately spoiling the "pure" vision of the original concept thereby confusing companies trying to make it work?

"I think there is some confusion, some noise out there that makes it a little ... distorts the signal a little bit. There's actually, I think, a very close analogy to what happened in open source software, the schism that opened between the free software people and the open software people. The free software people were people like Richard Stallman and others who thought basically software should be free. And, the distinction between that and the open view, which is that software should be open and can be shared but you should have the ability to make private extensions on top of it, really gets back to the idea of the business model.

"In the world of free they really don't like business models. They really don't think they're needed and they think that the world would be more innovative without them in software. The open people think the opposite, that actually being open is a fantastic generative mechanism to stimulate a lot of innovation, but to get back to scale and to get companies to actually use it and better their companies on it, they're going to need the ability to do a lot of support and sustaining activities. And that requires some funding. You need some mechanism to make enough money to provide those services. So the open folks think you can have and should have legal regimes and business models to enable that whereas the free people don't.

"In open innovation we have a similar debate. The differences between free and open become apparent once the initial creativity stages are over and the innovation begins to get going, companies come in and business models are created, capital investments have to be made, and there are financing mechanisms to do all that. To me a lot of the things that get the ideas to scale and really drive the real social impact arrive only after companies become a bigger part of it and it gets going. So I'm much more like the open software people rather than the free software people."

Point taken, but what about the companies and executives that don't have that all encompassing view and struggle to fully implement the model? On this, Chesbrough remains bullish.

"My sense about executives is that they're ultimately pretty pragmatic and I think a lot of good things can happen by making business models themselves more open and creating mechanisms to share things with associated IP and so on, much like the open software people. Now, our definition of open innovation is actually in an academic book we wrote in 2006, and describes the purposive use of inflows and outflows to accelerate internal innovation going to market and enabling other channels for ideas to go to market respectively. So there's an *outside in* component and an *inside going out* component to the model.

"But many people when they think about open innovation only think of the first half. They don't think about the second half, the inside out piece. Companies are quick to pick up on the idea of expanding their intake from outside sources in their own processes. But they're much more reticent about actually thinking about the things that Xerox dealt with where they had projects that weren't going anywhere

but didn't know what to do with them. Even today, not many companies think hard about that problem. So that inside out half of the model is still, I think, a work in progress."

We're now about half way through our allotted time so I move on to discussing what the optimal conditions are for making open innovation work. Chesbrough pauses and picks his words carefully.

"There are some underlying conditions that need to be satisfied. One that may sound obvious or basic would be labor and mobility. In Japan, for example, even today there's kind of a two-tier labor market where many people once they graduate college, join a company and they're there for their career. There's a second tier in the market that's kind of a lower tier that's much more temporary and people ... move from company to company. Those people are typically in lower status jobs and in a few of the more artistic kinds of industries as well. Within that first tier of the market, labor mobility in Japan remains very low even today. And, I think that really impairs open innovation because even if you bring in external ideas it's the same people that you had last year or the year before or the year before that. The idea might come in but the people with those ideas don't come in.

"We've learned that to really transfer knowledge effectively in a way companies can really make use of it, you need a certain amount of creative abrasion and a certain amount of dwell time together working on it. Open Innovation works best when you have people collaborating side by side, with people that are moving from one organization to another. It doesn't have to be a lot of them but enough that you can have interpreters going back and forth to bridge the differences. You need people in a boundary spanning role, a brokerage role, and so on. Aside from mobility and labor, another precondition is the need for some basic IP rules to enable open innovation, particularly in situations where there are some capital intensive investments that have to be made. Maybe not at the infancy of these industries but in the stages where it really begins to get to scale, you're going to have to invest significant capital up front. You're going to need some IP to pay for that. And, so a country or a system where there effectively is no IP would have a very, very hard time organizing for Open Innovation."

Ah, yes, the ever-thorny issue of intellectual property and how best to control it in an "open" setting. I wonder out loud just how difficult it is to implement OI effectively in countries where protecting IP takes more of a back seat – in China for example.

"The good news in China is that labor mobility is not a problem," he says firmly. "They've got lots of labor mobility. People are jumping ship all the time. In fact, the companies that I've talked to that have R&D labs in China complain that the turnover rates can be 20 or 25 percent a year: every four or five years you've got a brand new lab in terms of people working there. So that is a leak in the system from their point of view. Now, it does make it hard for them to commit to developing as much technology in their labs as they might like to, because it's a real threat that a lot of it will walk out the door without appropriate compensation.

"However, I am actually bullish on this problem being fixed in the following sense. If you were in Taiwan in the 1960s, Taiwan was just rife with IP pirates of various kinds, copying left, right and center with little or no protection of intellectual property at all. But if you look at Taiwan today, 50 years on, IP is very well protected, highly respected and they now have a very interesting division of labor in the offshore

manufacturing community for electronics and semi conductors and alike that is really supported by good IP management. I think in time we'll see something similar in China. You will see the rise of indigenous companies, who have a lot of internal technology are going to want to protect that technology similar to what happened in Taiwan. Up until recently China hasn't had enough of an indigenous technology sector to have a lot to protect relative to the value of appropriating or copying everything else. I think there is a natural dynamic here as companies grow and move up the value added ladder and move up the technology maturity latter. You have companies that are genuinely developing technology – they're not simply copying anymore. We're going to need more of those in China before you'll really see an effective mobilization of policy to tighten it up, but I think it's coming. I can't tell you whether it's going to be five years or 15 years, but I think it is coming."

The lunch crowd in the dining room is beginning to drift away, the shadows from the stained glass windows stretching deep across the room. I turn to the industry aspects in making OI work. I ask him to explain how companies can successfully navigate the dynamics of individual industries, where technologies can be radically different, and still generate success with OI.

"Often you accept the premise that you're living and innovating in a world where there's a lot of useful knowledge widely distributed. If that's the case there's actually more value, not in coming up with yet another building block of technology but rather in coming up with the architecture that connects these things together in useful ways that solves real problems before other people do. So that system architecture, that system integration skill, which has always had some value to it, becomes even more valuable in a world where there are so many potential piece parts that can be brought together for the purpose.

"When you think about innovation being modular or architectural, or radical, or incremental, et cetera, these are actually artifacts of someone putting together a system or architecture and the trick becomes navigating the competitive dynamics within that system as it unfolds."

I let this sink in for a moment and noticing my raised eyebrow he expands further.

"As I think the Apple and Google success in mobile shows, because an industry launches with a particular architecture that might go for some period of time that architecture can be overthrown or disrupted by a new architecture. The question is where do we play in this new architecture or should we try to come up with an alternative of our own instead."

This leads us to talk about the challenges Apple has had in replicating its success in the U.S. mobile sector in countries like India. I ask where he thinks the future value will reside for upstart new entrants taking on the wireless incumbents of old.

"Significant growth in mobile is unlikely to be in the U.S. or Japan or Western Europe... And, so the business model that Apple's done today, it's really going to need a different model. Now, Google I think is in a very different situation. Let's say for the sake of argument that the Google Android experience isn't as good as the Apple iPhone experience. That may be so but the Google business model, I think, is much more likely to be effective in the emerging markets than Apple, precisely because Google is largely

agnostic about where the (user) minutes come from and how they're sold, et cetera. As long as there's a device where they can serve ads, their business model is going to be just fine. So, it's not that the technology or the user experience is better, it's that the business model is better adapted to the local environment."

As we move back on to the topic of business models, the dominant theme running through our discussion, I ask Chesbrough what his views are on platform leadership and ecosystem development, two of the most prominent strategic tactics in mobile. Do they share anything in common with the Open Innovation playbook?

"Platform leadership to me is the business model side of the technical integration or systems integration ideas we were talking about a few minutes ago. The real value lies in finding the ways to connect all these things together and solve real problems before other people do it. The platform side is the business model that gets you where you're going, and when it's clear that you're going to get there, you can rally and inspire and motivate customers and developers and others to join the platform. You consciously invite many people into the process outside your organization. You design your model in ways that they can make money and they can create business models that work for them, even while your business model works for you. Done really well, their activities increase the value of your business to you so it's their money making your business more valuable; a real value multiplier. It's easy to say, hard to do."

And what about ecosystem development - easy to get wrong I would think? He pauses and provides another anecdote on Apple, made all the more poignant by the passing of Steve Jobs less than two weeks after our discussion.

"I was at a meeting with John Riccitiello of Electronic Arts last week and he told me of a meeting with Steve Jobs back when they were just setting up the app store business model. Apple's staff had done an exhaustive analysis of who was bringing the customer to the table, who was driving the design of the systems, who was really adding the most value to this and they were making an argument that Apple should take the lion's share of the revenue when these apps were sold because they were the channel. They were the brand. They were the ones with the customers, the system, you name it. And, Rigatello and others were saying to Jobs, you know, look you've got to give us more reason to participate here. If we can't make any money we just won't play. And so, as Rigatello tells it, Jobs overruled his staff and instead of taking 30 percent of the revenues for the developers, 70 percent for Apple, he flipped it, and gave the developers 70 percent and Apple took 30 percent.. He made the call against the advice of his own staff, and as a result nurtured this wonderful ecosystem."

The dining room is deserted and it's time for the professor to head back to the classroom and me to get back to the office. We walk out together and I ask him if he's shocked at just how pervasive his ideas on innovation have become in such a short period of time.

"When I wrote the first book in 2003 I did a Google search on the term 'open innovation' and I got about 200 page links back that said 'company X opened its innovation office at location Y'. There was really no meaning to the two words together... When I was finishing the research for my last book last year that

same search on that same term generated 22 million links, most of which were about this different new model of innovation. So I've taken a very broad view and tried to be very active and engaged in promoting it. Obviously, that's not one person's effort. A whole lot of other things have happened and a lot of other people have built on it but it's been a real source of satisfaction for me to just watch how quickly it has developed."

Indeed, a great example in itself of the power of Open Innovation.

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