The Thought Column: Henry Chesbrough

Henry Chesbrough is Adjunct Professor and Executive Director, Center for Open Innovation at UC Berkley. His research and teaching interests center on a new paradigm for managing innovation. He is the author of *Open Innovation*, published in 2003. Henry was named as one of the Scientific American Top 50 Business and Technology leaders for 2003. *Open Innovation* was named the best business book on innovation by Strategy + Business magazine. His latest book *Open Business Models: How to Thrive in the New Innovation Landscape* was just published in December. Henry can be reached at chesbrou@haas.berkeley.edu.

Interviewed by Doug Berger, Managing Partner, INNOVATE LLC

Doug: Your first book, Open Innovation, captured the thinking of business executives around the world. What are some of the new lines of thinking on which you have been working?

Henry: The best way to begin the dialogue is probably to contrast this book with the last book. The first book is called *Open Innovation* and the central idea is that companies ought to make much greater use of external technologies and ideas in their own businesses and in turn, ought to let more internal ideas that aren't getting used in the business flow to the outside. What helps companies filter what they bring in and what they push out is the company's business model. In *Open Innovation*, the business model was considered fixed.

My new book is called *Open Business Models*. Here is what I am trying to convey with this title and this book: what if we could actually innovate the business model itself? I think that many do treat the business model as something fixed. What if instead, they could develop processes to actually experiment and innovate?

One of the realizations that prompted this line of thinking came from my research with Xerox PARC. Of course, they came up with wonderful technologies for computing and data communication, but many of these did not make it to mark through Xerox. Many, however, did make it to market through other companies. It wasn't just that they had another company, or even a separate organization, however. As you know, Clayton Christensen talks about the need to have a separate organization for disruptive technologies. These companies also had different business models that were very innovative in relation to the Xerox business model in the copier and printer business.

The copier and printer business operates from very much a razor and razor blade model. Once you buy the copier or the printer, you're really on the hook for toner, cartridges and services from that same company, all of which can be sold at much higher margins then the initial machine. This was a great business model for copiers and printers for many, many years, but it was a terrible business model for many of the computing technologies that came out of PARC.

What Xerox didn't have was a process to innovate its business model. They couldn't try experiments with alternative ways of taking their ideas and technologies to market that might have actually given the company a bigger overall footprint in its business.

So, in the second book, I examine some companies that actually were able to alter their business model. I talk not just about the technologies that they used, but the way in which they commercialized those technologies and took them to market.

There are two companies that I discuss at some length in the book. IBM, which went from a mainframe business model, to a PC oriented business model, to the IBM Global Services business model. Now they actually integrate many technologies from other companies on behalf of their customers. So, from an IBM standpoint, it is a more and more open progression as they figure out ways to process technologies.

The other company that I look at in some detail is Proctor & Gamble. They have really been quite vocal about their approaches to innovation and the differences there are now from the way in which they used to do business ten years ago. Theirs, too, is a much more open approach to their business model. Proctor & Gamble share and license many of their technologies with other companies, including their competitors. They actually collaborate with other companies, including competitors, and they source many external ideas and technologies from the outside.

Both of these companies, in my judgment, have made tremendous leaps forward in terms of opening up their business models.

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A second area that I have been considering is that of innovation in services, as opposed to innovation in products and technologies. Much of what we know about innovation we know from careful study of products and technologies. Clay Christensen's work, for example, looked very closely at disk drive companies. My research on Xerox looked primarily at technologies which came out of its Palo Alto Research Center. We know much less about how to advance and innovate in the services domain.

This is a more challenging problem. For starters, services innovation doesn't really produce a tangible output or artifact. Services are more heavily weighted towards producing intangible outcomes that are sometimes viewed as experiences. Well, my goodness, how do you measure and quantify a rate of improvement in the area of experiences? So, this is going to be a really interesting, challenging area.

Ironically I came upon the problem in part through my research on IBM for both *Open Innovation* and then later for *Open Business Models*, because IBM's own business model is now more than half derived from its services. What does IBM do with a $6 billion expenditure each year on R&D if more then half of the company's business is coming from services? Where do they spend the money and on what it is it spent? What's the role of long-term research in an environment where services are an increasing part of your business? It wasn't long after I realized that problem that I also realized that the problem isn't limited to companies like IBM, General Electric, General Motors or others who are shifting from products to services. It is actually a problem for our whole economy because the economy is now services dominated as well.

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The third area that I am looking at, through a grant from the Sloan Foundation in New York, is the globalization of R&D, with a particular focus on the semiconductor industry in China. Specifically, I am interested in how that industry is starting to emerge in China and the impact its emergence is having on the global semiconductor industry. This has been a marvelous one to study because, as has often been observed, semiconductors are a leading edge industry for many technology-based situations.

Our research shows that in semiconductors, the companies that are at the leading edge in China are those companies that already strictly observe intellectual property rights. These same companies are also lobbying the government to strengthen intellectual property protection for the purpose of helping them upgrade their own technology base and compete more effectively in world markets.

Let me give you a few examples of this. One of the leading semiconductor foundries in the world is now in China. It is called the Shanghai Manufacturing International Corporation (SMIC). And SMIC now has eight plants operating in China. The company is headquartered in Bermuda and the stock trades on the New York Stock Exchange. It gets many of its people from the U.S. and Taiwan, and its capital from international capital markets. And as a foundry, it actually builds chip designs for its customers.

So, a semiconductor design house will design a chip, give the design to SMIC for manufacture, and then SMIC ships it for eventual integration into a product. The company giving the design to SMIC really worries about the design being stolen, but SMIC has adopted processes that make it more virtuous then Caesar's wife, with regard to protecting IP.

This is just one example of how in China, there are companies that really are strongly protecting IP and want the government to do more.

A second example which I find of particular interest is a group, also in Shanghai, called the Shanghai Silicon Intellectual Property Exchange (SSIPEX). This group was started by the City of Shanghai and the Ministry Information Industry to promote the legal exchange of semiconductor IP. SSIPEX has the second largest repository in the world of legal semiconductor IP. They act as a broker helping Chinese companies kick the tires on this IP before deciding whether or not they want to use it themselves. If they do, the SSIPEX helps to transfer the technology, or gives them a license to the technology usually on behalf of Western suppliers of this IP.

Doug: Let's double back on is this whole area of services innovation. This is a new, very big fertile ground. What are the two or three notions that are capturing your thinking?

Henry: I am thinking hard about customization. When do you customize and when do you standardize? There is a lot of information in the services business and there is a strong IT element in most services organizations.

Now, customizing is probably going to be a more satisfying solution for the customer because you are tailoring whatever information you provide exactly to what the customer wants. But of course, customer needs change and technologies change in advance. So, it is a very dynamic setting and that which is very customized right now, in six or 12 months, may no longer fit so well. If the customer wants to change it because it is a one-off solution, they have to essentially bear the full cost of making those alterations.

By contrast, when you standardize something, you probably don't give the customer exactly what they want because you didn't do the customization. You give them a much more standard combination of things. And initially therefore, the customer is probably less satisfied.

Doug: Is there anything else with which you would like to tickle our readers' interest?

Henry: Well, going back to services innovation, another aspect of it is the relationship between customer and supplier. As we said a moment ago, there isn't any fixed product or artifact between the two. It is therefore much harder for the customer to fully specify exactly what they want from the supplier. Similarly, it is more difficult for the supplier to fully explain to the customer everything which has been done before and for the customer and supplier to actually agree on when the solution has been delivered.

There was an article in this month's *Harvard Business Review* by a Harvard Professor, Francis Frei. She said, in the context of a product, you don't have the customer wandering the shop floor telling you to do more of this and less of that. You have a whole set of processes that are developed and the customer only interacts at the very end of the process with the finished item. In services, however, the customer often is a co-producer. As a co-producer, the customer is effectively running around within the processes, making choices here and there, and essentially messing up a very smoothly running, very standardized process.

Doug: Henry, thank you for sharing your thinking with our readers. We wish you tremendous success with your new book, *Open Business Models*.