How to Innovate When Platforms Won't Stop Moving

Business and technology platforms change faster now than ever. What does that mean for how companies compete?

INTERVIEW BY MICHAEL S. HOPKINS

THE LEADING QUESTION

How can companies innovate and succeed in today's landscape?

FINDINGS

- Businesses must cultivate agility — the ability to adapt quickly to or even anticipate and lead change.
- Businesses must develop *deep differentiating capabilities* that enable them both to separate themselves from competitors and endure disruptions.
- Companies such as Apple and IBM show how agility and capabilities can enable organizations to shape-shift as industry models rapidly change.

THERE IS A DIFFERENCE between fashion and insight. But the literature of management — whether found on the bookshelves of every city's airport, or at the conference you attended last month — doesn't always seem to recognize it. In most management literature, the new is positioned as the necessary. The ideas that are fashionable are the ideas you haven't heard before, or at least haven't heard in the fresh ways they're packaged. Fashionable is equated with *better*. New is equated with wise. And even though every intelligent manager knows this equation is wrong (because who hasn't seen a hundred management fads come and go? Who hasn't seen organizational damage in their wake?), we consume the new fashions anyway. We consume them even though what we really want is insight, and we don't care whether the ideas are new or old or anything in between. We just care that they're *right*—and that the management guidance they offer will last, and that it will help us to last, too.

Unfortunately, that's harder to pull off than fashion. But it's what MIT Sloan School of Management professor of management Michael A. Cusumano set out to do when asked by the University of Oxford to deliver the 13th Annual Clarendon Lectures in Management Studies in 2009. Now he has tried to answer those questions in his latest book, *Staying Power: Six Enduring Principles for Managing Strategy & Innovation in an Uncertain World* (Oxford University Press, 2010).

He spoke with *MIT Sloan Management Reviews* Michael S. Hopkins about the insights in his book, and about what characteristics will most determine competitive success in today's innovation-driven landscape.

When IBM realized the business model for computers had changed, the company proved its agility by proceeding to reinvent itself.

Given the speed of technology change and its effects on competition, what should leaders pay most attention to about their own companies in order to position them to evolve and succeed?

I think there are two things that managers should pay attention to. And in some sense, they're opposites.

One is *agility*. It comes in different forms, but basically it's the ability to quickly adapt to or even anticipate and lead change. Agility in its broadest forms affects strategic thinking, operations, technological innovation and the ability to innovate in products, processes and business models. I can't think of anything more important than building an agile company, because the world changes so quickly and unpredictably — there can be catastrophes like that tsunami in Japan or there can be once-in-a-century innovations like the Internet or there can be smaller levels of disruptive innovations like mobile computing and wireless technologies.

The second principle every manager needs to think about is developing *deep differentiating capabilities* that allow a business to create products or new versions of products and services that truly separate their business from the competition and enable the company to endure despite strategic mistakes or other unforeseen changes in competition and markets.

Sometimes these deep capabilities are in processes, like Toyota's unique "just-in-time" skills in manufacturing and supply chain management, as well as skills in product engineering and project management, all of which have evolved gradually since the 1930s and 1950s. In other cases, it's having a deep capability for understanding customer needs — for example, the way IBM has managed, over some 100 years, to understand how enterprises use and process data, whether that means building mechanical tabulators or vacuum tube computing machines or modern workstations or delivering cloud computing services and doing open-source software projects.

I imagine you have students in your classes who also are starting companies. Do you say to them, "No matter what else you do, from the very start you need to grow your company so that it has the capacity to be agile"?

I do, with some caveats. Startups often try to do too much and so you have to force them to focus. The problem is that I've never seen a startup get the strategy or the product right the first time, and often not the second or the third time. So they have to be flexible in their strategic thinking and their technology development to find the right space, the right strategy, the right business model.

In my book, I break down the agility idea into four principles: capabilities rather than just strategy; pull rather than just push concepts and systems; economies of scope rather than just scale; and an emphasis on flexibility rather than just efficiency. For example, the future is unpredictable, so strategy needs to change, but companies can still build unique capabilities that provide a stable base for new products and services as well as help them navigate through change. Managers also need to create mechanisms that "pull" information from the market in something resembling real time, such as customer-driven product development processes or production management systems that allow firms to change their product mix very quickly. The key for many firms is not to always be creating plans and pushing products out to market but to find ways to react very quickly to new information or responses from customers and other partners to what you are doing or intending to do. Economies of scope are also useful here because customers today often want a variety of new products and features but do not want to pay much money for them. Companies need to go beyond traditional scale economies and find ways to leverage existing knowledge in the form of reusable components and frameworks to produce a variety of products and services as efficiently as possible.

Can you give an example of a company that has transitioned from being unagile to agile?

When I think of companies that have managed transitions well or reinvented themselves, I immediately think of IBM and Apple. IBM started out as a producer of electromechanical tabulating machines and typewriters, then dominated in the era of mainframe computers, transitioned into personal computers, but lost this battle to Microsoft and Intel. But it reemerged as a champion of Internet services and "open systems" as well as the products and especially services that large enterprises need to manage information technology effectively. Apple evolved from a great product

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company that tried to control everything and nearly went bankrupt a couple of times after it lost the desktop battle to Microsoft. But it has re-emerged as a much broader company with multiple platforms of its own, going way beyond the PC business to multimedia devices, smart phones, digital content with iTunes and tablets.

What also comes to mind are the many companies that *havefailedto* make these kinds of transitions, such as big hardware companies like Digital Equipment Corp. Actually, in the software products business, which I've studied intensively, about 75% of the publicly listed companies that existed in 1998 have disappeared — shut down or been swallowed up. They no longer exist as independent companies.

That's a lot of companies that didn't have the ability to adjust.

The big transition in the software products business is that they became service companies, getting revenues from professional services or ongoing maintenance payments. The whole model got upended.

Siebel, for example, essentially invented the customer relationship management tool. Its software was used by almost every major company in the world in one form or another, and the company rocketed to incredible prominence in the 1990s, selling licenses for its products as fast as it could write them. Then with the crash of the Internet boom, many people began to see Siebel products as expensive. Other companies had sort of copied the basic technology and were bundling it for free with other applications they were building. And then Salesforce.com standardized the product and started selling it as a service for much less money and much better ease of use. All of those factors led to the collapse of Siebel; it amassed enormous losses after being one of the most successful software companies in history. It didn't go bankrupt, but it was taken over by Oracle.

Siebel failed to develop *dynamic capabilities* — that's the buzz term for it in the strategy field. "Dynamic capabilities" are about the ability to understand the customer and compete not on the basis of your company's own products, but on the *platform* within the industry and what I call the "ecosystem" of competitors, partners and users. Platforms have included the Windows/Intel computer operating system, VHS over Betamax, even eBay and Facebook. As a platform network grows and more people and companies adapt to it, the pressure on companies to differentiate their offerings within that platform also grows.

One company that I find interesting is Nissan, which didn't have differentiating capabilities at its very beginning. It bought technology from the United States: It actually bought a whole factory and truck designs and manufactured in an American style, using a very simple mass production line. It wasn't very flexible, but it did that for 30 years, and it did it very successfully.

So Nissan had a capability, in fact.

It bought it. And actually, whenever Nissan was challenged, it found that it had to go outside the firm to get help. When it wanted to shift from the big trucks it made for the military during the 1930s and '40s to small cars, it had to go to England for another joint venture with Austin to import technology.

Nissan was initially way ahead of Toyota, because importing American technology let it set up the first advanced mass production factory in Japan, in Yokohama, in the 1930s.

Toyota, on the other hand, was doing everything by itself. It did not buy any technology from overseas or hire any outside experts. It reverse-engineered all its products, learned how they were made. And in the process of doing that, Toyota actually figured out a better way to mass-produce automobiles. This is where, I argue, Toyota developed a deep capability in manufacturing and in-house engineering, when it essentially reinvented mass production during the 1940s and '50s.

Nissan, because it hadn't developed in-house engineering skills to design its own products or design its own factories to make those products, became an also-ran. From being the top automobile producer, it was overtaken by Toyota in 1951 and then gradually slid to the point where it encountered bankruptcy in the early 1990s. And it sold a third of the company to Renault.

But that wasn't the end of the Nissan story.

That's right. What Carlos Ghosn, the CEO of Renault, did when Renault took over Nissan was force the company to focus on a few things and encourage it to be as creative as it could possibly be in design.

Part of that capability that eventually emerged, I think, was transferred from Renault, which is known for creativity and design. That push resulted in a flourishing of design creativity in Nissan as it focused on a smaller number of distinct models but was allowed to do neater things in areas like body design and interiors. It led to a tremendous renaissance in Nissan's recovery. And the company went from bankruptcy to being profitable, and globally it's doing quite well.

And that's a consequence of having developed this new design capability, you would say?

Yes. Nissan will argue that it had already been accumulating these design capabilities, learning a lot from Austin about how to design small cars and from Prince Motor about engineering for engines, but it didn't really didn't put those things together until the French came in and said, "Let a thousand flowers bloom." Those capabilities were nurtured in a way that they hadn't been before.

What kinds of questions should companies ask themselves to uncover what, for *them,* might be the best capability to nurture?

Managers certainly need to ask themselves — and the smartest people they can find around themselves, inside and outside the company—what are the potential megatrends that could disrupt their businesses in the future or make their business models obsolete. In the industries that I study, for example, there have been two such trends emerging over the last several decades: the rising importance of industrywide platforms as opposed to stand-alone products, and the rising importance of services or service-like versions of products. For example, platform dynamics explain why Sony's Betamax failed as a consumer product and why Apple's Macintosh failed to become the dominant personal computer. Service dynamics explain the rise of companies like Salesforce.com as well as Zipcar.

I should explain these trends a bit more clearly. I define industry platforms as foundation products or technologies that generate a broad ecosystem of other products and services built around them by other companies, with that ecosystem making those core technologies or products more valuable in some way. Everything is tied together. This occurs in many industries, but we see it especially in software and computing and consumer electronics.

The rise of services is essentially the flip side of the commoditization of products that generate those services, particularly "hard" or tangible products. In *Staying Power,* I argue that there's this dual trend of both innovation and commoditization going on, which means that consumers continually demand more innovation or new features or neater things they can do with their products or their services—but they want to pay increasingly less money. They want to pay what they pay Google for searching on the Internet, which is zero. They want to pay what they pay for an open-source software product, which is zero.

Free creates tremendous pressure on companies to find ways to make money other than selling products. The essential question is: What will customers pay for? And, increasingly, the answer isn't that they'll pay for a great product. Many companies have turned to services or subscriptions or *servitized versions of their products,* where they're delivering value and personalizing products in special ways that customers will pay money for.

Which gets back to your earlier observations about how companies need to be agile, anticipate change and develop differentiating capabilities so they can create new versions of products or new services that stand out.

Yes. Let's look more closely at IBM. Very early on, IBM managers, led by Lou Gerstner, were quite good at identifying this problem of commoditization. They first saw it with IBM's own hardware and mainframes, and then they saw it with the personal computer. IBM understood that there were platform wars going on, and that while it was the

architect of one of these new kinds of systems, it couldn't *control* the new platform.

IBM realized it had lost control of the PC to Microsoft and Intel. It realized there were companies overseas with lower costs making similar kinds of hardware products and selling them at much lower prices. It realized that personal computers were being used in ways that mainframes had previously been used. It realized that instead of paying a million dollars for hardware, companies were getting by with spending, in some cases, just a few thousand dollars.

Lou Gerstner, who was chairman and CEO of IBM from 1993 to 2002, and his key managers, realized that the business model in the computer business had changed. Platform disruption had essentially made it much more difficult to make money from hardware. And one alternative was to develop deeper capabilities in services that helped customers use the new hardware and software technologies that came with PCs, the Internet and open-source software such as the Linux operating system.

IBM had already been providing services for free in support of its hardware systems, yes?

Yes, exactly. For decades. So now its challenge was to figure out how to monetize those services or broaden those capabilities. It went out and bought PricewaterhouseCoopers' IT consulting arm. It bought other companies that had a lot of software products with large, installed bases of customers that required different services and had highly profitable maintenance contracts. And it started systematically selling off commoditized hardware businesses like the personal computer business, printers, semiconductors and storage systems. What it was trying to figure out was a strategy of pulling together its expertise in different kinds of systems and how to integrate those systems for customers while helping customers migrate to the new eras of the Internet and open systems.

I want to make sure I understand the options that IBM faced. It couldn't control the PC platform; that had been increasingly commoditized. So instead of using the services it was offering to *supportthe* hardware that was at the center of its business, now it was going to sell the hardware primarily in order to...

...to generate demand for services.

Generate demand for services, OK. So, given the set of marketplace transitions IBM has gone through, would you describe IBM as agile?

Yes, I would. Absolutely.

How do you explain that agility, particularly since IBM is such an enormous company? What enabled it? Leadership? Something about the culture?

I think it goes back to Gerstner. I give him a lot of credit, and I give credit to the people who worked with him and followed him. You may remember that just before Gerstner came on board, the CEO before him, John Akers, had also realized that IBM had become stuck in the wrong platform world with too much of its business in hardware and that it needed to make a major transition. But his decision, which was never implemented, was to break up the company into several independent businesses so it could become more agile. The idea was to break up IBM into a mainframe company, a services company, a software company and a company making smaller hardware like workstations and PCs. The thinking was that smaller would be better and would lead to decentralized and faster decision making.

But then Gerstner came in — and remember, he had been CIO at American Express, an IBM customer, and *he saw things from a customer point of view.* The Internet had not come on yet, but companies were mixing big machines with smaller machines and with different kinds of software. Gerstner saw it as a problem that could be solved by delivering to customers an integrated solution, or at least a strategy for a solution. He said no, we're not going to break up, but we are going to figure out how to organize better, how to think better, how to plan better.

IBM did a number of studies and figured out that it had all these processes that were designed to ensure quality, but they also meant that it was extremely slow to develop anything new. Different markets, like the PC market and then later the Internet market, required much faster decision making. They didn't require the same kind of quality standards, but different kinds of standards. And so IBM did decentralize its decision making, but without physically breaking up the company. IBM reorganized into a small number of groups that mapped better to how customers needed to integrate the new technologies.

It became the equivalent of the broken-up company, and yet still integrated.

Right. One piece was just software; another, services; another, hardware systems. Those pieces had to work together, so IBM created councils. It created the Emerging Business Opportunities Group, which would be deliberately trying to feed and nurture businesses that did not obviously fit in a previous business. Open-source software, the WebSphere technology as ubiquitous computing, now called cloud computing — all of that came out of these initiatives.

You know, the heartbeat of these industries is now much faster. The heartbeat of the mainframe industry was roughly four or five years, planned in chunks because that's how long it took to develop a new mainframe. The PC guys worked on more like a one- to two- to three-year cycle because it was much faster in applications. When Netscape appeared, it worked on a six-month cycle and would have new product versions every couple of months or continuous beta versions. And many people argue that Google is still in that mode of continuous beta.

IBM made a transition to where it deeply accelerated its planning cycles to monthly meetings. Senior executives got involved deep down in the organization rather than sitting at the top. The company would still have plans that worked out one to three years and sometimes longer in the future, but it also put aside money so that if managers saw an opportunity, they could fund it. That let them be much more flexible. The company did a lot of things right.

You mentioned "servitization." Can you explain what you mean by that?

What I call servitization is almost everywhere, and it's an essential business model change. It's when things that we used to think of as products turn into services, and the different ways that are created of delivering those services and monetizing them through a wide variety of pricing models.

The automobile, for example, is a wonderful platform for generating services, with loans, leases, lifetime warranties, maintenance, repair and, in the future, telematics — everything from navigation technologies to being an Internet source for your cell phone or movies for the kids in the back seat. Automobile companies have really taken up this model and run with it because most of them have been having trouble making money from selling products.

Another set of examples are the more convenient leasing or loan models like Zipcar, which is enabled by software technology downloaded from satellites to unlock the rental cars and keep track of who's doing what and where the vehicles are.

Servitization has been happening in the music industry. People don't want to pay for music, but they actually might pay for a *subscription service.* The newspaper industry and magazine and book publishing have all been devastated by this commoditization and digitization trend, and they're also looking into selling subscription services. There will be other kinds of pricing models that look more like ongoing services than just a series of products. Of course, *what* they will pay is still the issue.

Those ecosystems, it seems to me, have gotten increasingly complex. That presents both threats and opportunities. How can company leaders effectively imagine what their ecosystem is going to be in the future?

One of the things to understand at the outset is simply, what does the value chain or ecosystem *look* like *today?* What are the different pieces? How much money is there to be made in those different pieces? What kinds of capabilities does your firm have or might it be able to acquire or build upon to go into different parts of that value chain or ecosystem?

Some companies have distinguished themselves through pure quality. Take an automotive supplier like Robert Bosch. It has managed to survive the commoditization of the automobile by creating *platforms within platforms.* Its fuel injection systems are the best in the world, and the best companies in the world go to Bosch for those systems. Bosch's products actually become a platform around which the auto companies build parts of their engines.

The key is to find what a company can develop expertise in. It will be that enduring expertise that will help carry it through the disruptive transitions.

Fonte: Mit Sloan Management Review, Cambridge, v. 52, n. 4, p. 55-60, 2011.