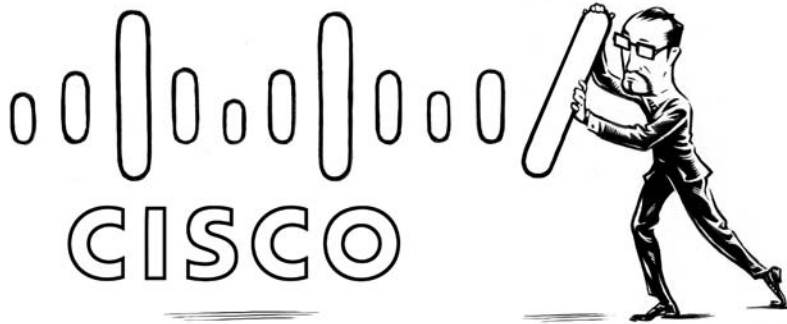


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Cisco's Virtual Management Lab

How one of the world's most innovative companies discovered the value of focusing its R&D attention on its own business practices.

BY INDER SIDHU



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John Chambers, the CEO of Cisco Systems Inc., first realized his company had a problem reaching the consumer market in 2002, when his son installed a wireless network in the family's home. "I assume you used Cisco products," said Chambers. But his son hadn't — because he couldn't find any appropriate devices made by Cisco at the consumer electronics store where he shopped. Nor could he find them at a suitable price online. Cisco's gear was too expensive and technically advanced for his needs.

That didn't sit well with the CEO. At the time, there was a US\$20 billion global market for home and small-office network

connectivity products, which was projected to grow into a \$74 billion gold rush within a few short years. There was simply no way Cisco, the world leader in networking equipment, could ignore that market. If consumers by the millions were networking their living spaces with inexpensive, easy-to-use routers, Cisco ought to be at the center of this communications revolution, Chambers believed.

But how? Cisco, founded in 1984 by a group of Stanford University scientists, had become the world's most successful manufacturer of computer networking equipment, a distinction that this company (for which I serve as senior vice president of strategy and planning) still maintains. We provide the bulk of the infrastructure that powers

the Internet and other networks, both public and private. When you send an e-mail, visit a Web page, connect to a secured corporate network, or, increasingly, make a simple phone call, chances are Cisco equipment and software make it happen. The company does business in more than 140 countries and has a market capitalization of roughly \$140 billion.

But we are also keenly aware that when a company is large and successful, it can grow complacent. Somewhere along the way, Cisco had started acting less like a hungry startup with everything to gain and more like an established market leader with too much to lose. By the early 2000s, we began to wonder whether our company was losing its edge. The more we studied the issue, the more concerned we became, especially about our innovation decision-making processes. We were green-lighting only those ideas that produced immediate returns. In many instances, this yielded gains in profit and market share. But it also meant that our company was missing opportunities — the consumer networking market and many others.

Since then, we have made deliberate efforts to pioneer innovative management practices at Cisco: designing and implementing new, unconventional approaches for taking advantage of market transitions and preparing for competitive threats. Our efforts are not limited to a specific program or team; they represent a commitment by decision makers from across the company to consider alternative ways of doing business. It's as if we set up a virtual management laboratory, part culture initiative and part best practices, to make use of every asset Cisco

has. We have relied on this “lab” to help overcome a variety of challenges over the years. Three of the most powerful examples of its work have been embracing complementary business models, developing disruptive innovations (the kinds of game-changing products and services that open up new businesses), and overcoming go-to-market obstacles.

Beyond the Business Model

Consider our foray into the consumer market — where at first, even the CEO’s son wouldn’t buy our products. That was because our business model didn’t match our customers’ needs. For most of its existence, Cisco had generated the bulk of its profits by producing high-value, high-margin networking products sold to corporate customers through high-touch sales engagements. In return for reliable, secure technology provided with generous support, customers rewarded Cisco handsomely. Gross margins on most products topped 60 percent, leaving the company with the returns needed to continue developing and refining the large-scale products that were sold in relatively low quantities.

But in the consumer market, the combination of high quantities, low prices, and steep competition gave us margins in the 30 percent range. Try as we might, given the systems we had in place for operations and R&D, we simply could not stretch our existing business model sufficiently to cover this market. We needed to build a new operations base and business model from scratch, expressly tailored to the growing consumer segment. We had to introduce this model as soon as possible, and make it fully operational, so our company wouldn’t miss out on a great wave

of customer buying. Given these realities, we recognized that the right approach would be to acquire a business already pursuing this model. We selected Linksys, the maker of the equipment that Chambers’s son had bought for the family home.

Founded in a garage in Irvine, Calif., in 1988 by the husband-and-wife team of Victor and Janie Tsao, Linksys was already a consumer networking leader when

were eager to learn from its expertise in consumer technology.

The hands-off approach worked. Since the acquisition, Cisco’s consumer business has maintained or improved upon its business metrics. Annual sales have doubled. Linksys has also diversified its business and entered new markets. Today, one-quarter of the sales of Linksys products come from outside the United States — more than

Linksys enabled Cisco to become more consumer-friendly, with a better understanding of branding and the retail channel.

Cisco came calling in 2003. It earned more than \$400 million in annual revenue and employed more than 300 people. We understood that we were getting into a very different business. Never before had Cisco sold products in stores that offered Bubblicious chewing gum or Britney Spears CDs.

Cisco was known for its skill in integrating acquisitions; the company has made more than 130 such deals. But most of our acquisitions were rapidly integrated into our existing business model. In this case, to keep a separate business model alive and prevent it from imploding, we handled the acquisition differently. We kept much of Linksys independent, at least at the onset. We integrated common business functions, such as human resources and finance, but preserved many of Linksys’s distinctive components, including its engineering, sales, and marketing functions. Linksys was, after all, a market leader, and we

doubling the percentage of a few years ago. Linksys has also enabled Cisco, as a whole, to become a more consumer-friendly company, with a better understanding of branding, the retail channel, and the consumer market supply chain. We are inching closer to our vision of selling devices, software, and services as an integrated solution.

Putting in place a separate business model has not been easy for us. We had to continually remind ourselves that we were not giving up control; we were creating an opportunity for significant gains. But if not for this acquisition, Cisco might have missed out on this large and growing opportunity in the home networking market. Moreover, the Linksys experience provided convincing proof, for us, of the value of explicitly looking at our management practices, and deliberately experimenting with them. Thus, in the mid-2000s, the company’s management team turned its atten-

tion to other challenges, including innovation.

Managing Disruptive Innovation

Though recognized primarily for core networking equipment, Cisco has a product line that spans handheld digital cameras, sophisticated security solutions, microprocessors, and even routers for use in outer space. To maintain its lead in some product categories and catch market leaders in others, Cisco invests between 13 and 15 percent of revenue in research and development each year. This is in line with other leading technology companies, including Intel (16.4 percent) and Microsoft (13.5 percent).

We are immensely proud of our innovations; our most advanced CRS-3 router, for example, can download every motion picture ever made — from *The Great Train Robbery* to *Avatar* — in just over four minutes. At the same time, we recognize that the more we focus on optimizing existing products, the less attention we have available for disruptive breakthrough innovation.

The management and engineers at Cisco recognized that disruptive breakthroughs required different people, processes, and incentives for motivating employees. For example,

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This article is adapted from Sidhu's *Doing Both: How Cisco Captures Today's Profit and Drives Tomorrow's Growth* (FT Press, 2010).

we created a new team called the Emerging Technologies Business Group (ETBG). Its primary mission is to pursue new ideas that could grow into \$1 billion market opportunities within seven years of being launched.

Because of the amount of effort required to take an idea from zero to \$1 billion, the ETBG was given a unique charter within the company's primary product-development division. We set it up as an incubation center for translating innovative ideas into business opportunities, not as a smaller R&D unit judged by its patents or scientific breakthroughs. Despite its small size in comparison to the rest of the Cisco Development Organization, the ETBG is responsible for some of the company's highest-profile engineering projects. This includes Cisco TelePresence, a video collaboration system that provides an experience so real that participants have been known to offer a handshake at the end of a meeting, momentarily forgetting the virtual environment.

The creation of the ETBG required a major cultural shift at Cisco. The composition of the team, the way its performance was evaluated, and even the processes the team used to develop products were distinct from the rest of the company. For example, the development of Cisco TelePresence began with cardboard boxes and foam blocks, not digital cameras, computers, and high-definition screens. The ETBG considered aspects never before incorporated into Cisco technology, including furniture and paint color for the walls in TelePresence rooms. If the creators had not thought through these design-oriented "softer" aspects, the TelePresence value proposition — the ability to conduct

a virtual meeting with multiple people located in different places around the globe as though they were all assembled in the same room — would have been lost.

Cisco does not sell nascent ETBG products to every customer. Customers must be prequalified on the basis of their understanding of the limitations of early-stage products. That's because we recognize that these products won't have all the features needed to satisfy all customers. Rather than selling to tire kickers, Cisco looks for what it calls lighthouse accounts — customers whose experience will provide guidance to others.

ETBG-related sales increased nearly ninefold between 2007 and 2009, despite the recession. Three of the team's products are already in the market today and achieving significant success, at least judging from early sales. In keeping with the goal, each represents a \$1 billion-plus opportunity within seven years. Four more are staffed and in the early stages of incubation (we are gathering customer feedback, refining the market focus, and developing the appropriate solutions). Only one has been terminated. Not a bad track record.

New Math for Sales Partners

At Cisco, one of our most difficult challenges was to transform the way we engaged with our third-party sales channel — the thousands of partner organizations that sell our products and services. In the late 1990s, Cisco bought a company called Selsius Systems Inc., which produced phone systems that worked over the Internet for a fraction of the cost of traditional landline technology. Eager to extend our reach in the telecommunications

market, we paid \$145 million for the Dallas-based maker of voice over Internet protocol (VoIP) phones.

But there was a problem. Cisco lacked a channel for going to market with voice communications equipment. For a company that generates more than 80 percent of its revenue through partner organizations, this was a major concern. Market share growth seemed like a tenuous proposition at best.

Undaunted, we did our best to use marketing and advertising to convince customers to try our products. Within a year of having launched our own reliable product with business-critical features, we found our VoIP sales beginning to

didn't work for resellers in the traditional voice world. For them, margins were typically 20 to 25 percent. Worse still from their perspective, our new technology virtually eliminated a lucrative revenue stream for traditional voice resellers: the charges for "moves, adds, and changes" to enterprise phone systems.

We realized that unless we changed the math, there was no reason for voice resellers to give up their traditional business to help us. Nor could we count on existing non-voice partners to jump in. They just weren't familiar with voice customers and voice technologies.

Cisco was effectively blocked from gaining traction in the market,

ship team decided that its long-term need for partners far outweighed any short-term gain in profitability. So Cisco created its Value Incentive Program, which paid resellers a fee for every VoIP deal they successfully closed. In most cases, partners could double, if not triple, their profitability on any VoIP deal. Overnight, Cisco's management innovation lab changed the dynamics of the voice market.

In the two years that followed, Cisco phone sales rose 40 percent per year. Some traditional reseller partners volunteered to invest in training so they could sell the new technology. Eventually, more than 2,000 partner companies signed on to deliver voice solutions around the world. Cisco, which had once languished as sixth in a crowded market, moved to the number one position, with more than 30 percent market share.

Once again, as with consumer products and disruptive technology, we learned how powerful management innovation can be. To be sure, not all of the ideas that spring from our virtual management laboratory produce results like this. But even when they don't pan out, they keep our company young and hungry — like a startup with everything to gain and not much to lose. +

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Rather than allow our sales partners to suffer and miss a market opportunity, we reduced Cisco's own return on investment.

grow. Revenues totaled approximately \$100 million per quarter by late 2002. But then they plateaued. After engaging early adopters and tech-savvy enthusiasts, we found no mass market of follow-up buyers waiting in the wings. The company had single-digit market share and was stuck in the number six position among vendors.

That's when we identified the culprit: profitability for our sales partners. The company's traditional programs provided margins of 8 to 12 percent to resellers of data products. Given the additional money they could charge for value-added services in the information technology market, these margins were acceptable. But those same numbers

so we needed to move — and fast. First, the company voted to increase spending to recruit voice consultants and analysts who could help influence voice customers on Cisco's behalf. Then we did something unprecedented: We gave 20 percent of the revenue from every voice product sale back to the partnering company that helped Cisco secure that business.

It was a tough choice. But rather than allow our sales partners to suffer and miss a major market opportunity, we reduced Cisco's own return on investment. This policy meant asking internal business managers to accept a lower contribution margin in exchange for jump-starting sales. After some discussion, the leader-

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