

DISRUPTIVE INNOVATION and CATALYTIC CHANGE in Higher Education

The downfall of many successful and seemingly invincible companies has been precipitated by a *disruptive innovation*—that is, an innovation that makes a complicated and expensive product simpler and cheaper and thereby attracts a new set of customers. Clayton Christensen, Robert and Jane Cizik Professor of Business Administration at the Harvard Business School, describes how disruptive companies establish a foothold in the market, expand that market dramatically, and then inexorably migrate up the quality chain. Ultimately they pin the original leaders in the highest tiers of the market, where there simply is not enough volume to sustain them all. Christensen extends his theory from the business realm to higher education. Online business courses, for example, now offer lower-end and more convenient access to courses that can improve students' credentials or help them switch careers—which is often precisely what the student customers want to accomplish by enrolling. Traditional colleges and universities don't consider themselves in competition with these new entrants, but in the process of retreating from them they risk becoming more and more out of touch with the mainstream and, therefore, increasingly irrelevant.

NOTEBOOK

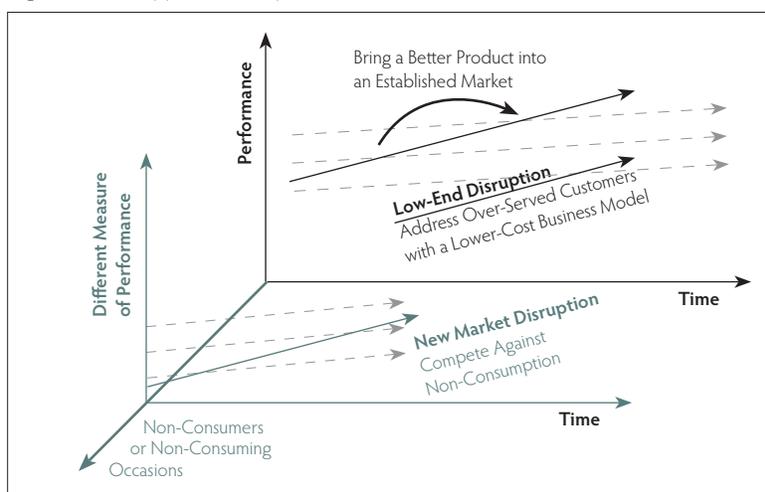
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- Harvard Business School is being disrupted at the bottom of its core market by corporations that are setting up their own universities for their best employees. HBS still holds the advantage in providing networking, connections, and brand. No institutional mission focuses on these jobs, however.
- Colleges and universities are being disrupted in many ways similar to Harvard Business School. The nation's top institutions—the original leaders in the higher education market—are moving up the quality chain and losing touch with the mainstream. It is time that they completely rethink their model.



Disruptive Innovation

In every market there is a trajectory of performance improvement that customers can absorb or utilize. Figure 1 illustrates how customers are distributed along different performance trajectories in terms of what they can absorb. Some customers are high end, very demanding, and willing to buy high-performance, expensive products. Others are low end and satisfied with simple and inexpensive products. Sustaining innovations move products up the performance trajectory; research has shown that as companies continually improve their products, in almost every market they outstrip the ability of customers to use that progress.

Figure 1. Two Types of Disruptive Innovation



The disconnect between the capabilities of a product and the customers' ability to use them opens up an opportunity for disruptive innovations, of which there are two types. The first are new-market disruptions, which succeed because they bring previous nonconsumers into the market. The personal computer is an excellent example of a new-market innovation in that its initial customers were new consumers who had not owned or used the previous generation of products and services, which were hard to use and expensive. New-market disruptions create a new value network; their competition is nonconsumption. The second type are low-end disruptions, which go after the least-profitable and most overserved customers at the low end of the original value network. Low-end disruption has occurred repeatedly in retailing: Full-service department stores earn high margins on inventory that typically turns over about three times per year. Wal-Mart, on the other hand, provides less service and earns lower margins, but because its inventory turns over more frequently, its profitability upon entry was the same as the full-service department stores. With greater sales came greater profits.

Some disruptions are hybrids, combining new-market and low-end approaches, such as Southwest Airlines, which initially targeted customers who weren't flying—people who drove or took buses, for example—and then began to pull customers from the low-end of the major airlines' value network as well.

Managing Innovation

My research for nearly a decade has focused on teaching managers how to use theories to guide and manage innovation. The churning of companies in the Fortune 500, where highly regarded, seemingly unassailable companies near the top find themselves a decade or two later in the middle of the pack or at the bottom of the heap, seems to indicate that innovation

and success is simply unpredictable. I believe, though, that it only appears so because it hasn't been studied very well. Managing innovation actually is far more predictable than historically we have been led to believe—if we can equip managers with good theories. Theories are statements of what causes what and why, and as such are quite practical in that they permit one to predict the outcome of an action.

The building of a body of understanding, or theory, almost always starts with observing and describing phenomena. Very quickly, phenomena are categorized by their attributes: These insects have six legs, these companies are privately held, those schools are public, and so on.

Then researchers draw correlations between the attributes of a phenomena and an outcome and test the robustness of the prediction to see if the relationships hold in other situations. This is standard descriptive theory based on statements of correlation.

Descriptive theory is quite common. Best-practices analysis, for example, falls under this type. But for many complicated problems, such as health care or public schooling, it is inadequate. A study of education, for example, can categorize schools, teachers, and students every which way by all sorts of attributes, but then too frequently policy makers or principals are left with Venn diagrams that lead them nowhere. The problem is that the descriptions lack causality.

The aim of my research on innovation is, whenever possible, to get beyond descriptive theory based on correlations of attributes to understanding what causes these things to happen. The goal is to identify the categories of circumstances in which managers might find themselves, as well as the rules that govern those circumstances. The result is better guidance and predictability of outcomes for managers.

It's All About the Job

Nearly all market research is descriptive, that is, it correlates attributes with outcomes of interest. To a company looking out at its market, it appears that the market is structured by the characteristics of its products and its customers. In the automobile industry, for example, markets are segmented by product characteristics: subcompacts, compacts, midsize, full size, SUVs, minivans, sports cars, luxury cars, light trucks, and so on. In framing their market structure that way, car companies target their innovations to fit into a category. Markets are also segmented by customer category: low income, middle income, high income, families, 18- to 34-year-old females with and without children, college educated, and so on.

In higher education, institutional categories are community colleges vs. four year, private vs. public, small liberal arts colleges vs. research universities, rural vs. urban, and so on. Student categories are as segmented. We do all sorts of correlations.

The problem with this approach is that if you're a customer in the market, that's not how the world looks at all. Instead, tasks or jobs arise in your life and you hire products or services to do those jobs for you. To predict whether a customer will buy a product, the customer is the wrong unit of analysis; rather, the *job* the customer wants to accomplish is the appropriate unit. The reason people buy a service or product is that they need to get a job done. There may be a correlation between the possession of attributes and the propensity to buy products, but what causes customers to buy is that they have to do a job. Customers, by virtue of simply living their lives, need to get different jobs done at different times and as such are quite unpredictable. The job, however, is stable and, therefore, the most reliable unit of analysis. Understanding that concept is key to innovating successfully.

To illustrate, consider milk shakes sold at a fast-food restaurant. The milk shakes are listed on the menu board under "desserts," yet research undertaken by the company in an effort to increase milk shake sales showed that nearly half of them are sold in the early morning. It was the only thing the customers bought; they were always alone, and always got in their cars and drove off with the shakes. Interviews revealed that the "jobs" the customers were "hiring" the milk shakes for were twofold: First, the milk shake filled them up such that they wouldn't be hungry all morning. Second, they had long and boring commutes and the milk shakes, which lasted a long time, gave them something to do.

It turns out that this restaurant's milk shake competitors are not the milk shakes sold at other fast-food restaurants but, rather, other breakfast food such as bagels, doughnuts, and bananas and, indeed, boredom, because if the commuters weren't bored, they would be less likely to be interested in

a milk shake that—due to its thickness and the tiny straw to suck it up with—lasts for much of their ride.

When companies take this perspective and segment the market by job, they find that their real competitors often aren't in their product category and the market is much larger—and as a result their share of it is smaller. That means that their growth potential is greater because nonconsumption is usually a major competitor. Finally, because they understand what keeps more customers from hiring their product to do the job, they are more likely to be successful.

The initial key question when building a business model is, "What is the fundamental job or problem the customer is facing?" This should include the functional, emotional, and social dimensions of the job. For example, in the case of luxury goods, the functional dimension isn't as important as the emotional and social dimensions because people often buy luxury goods to feel a particular way or to belong to a group that otherwise they might not fit in with. Peter Drucker, a pioneer in social and management theory, succinctly captured this approach when he said, "The customer rarely buys what the company thinks it is selling him."

Working from the insight gained by focusing on the fundamental job the customer is facing is a very good thing in theory, but in practice it makes companies feel as if they are limiting themselves. The temptation is to expand their offerings so that their products can be hired for two or three or ten jobs. In pursuit of that, the company loses its differentiation and in many ways also loses its core business because it isn't focused enough to do that well.

Disruption of Harvard Business School

Today it costs about \$250,000 to get a Harvard MBA. Students walk away from salaries of about \$75,000 a year and pay about \$50,000 a year for two years. It's a huge investment, but it pays off for the students because their starting salaries average about \$150,000 per year. However, Harvard has overshot what operating companies can utilize. General Motors, General Electric, Citibank, and others no longer come to campus to recruit. Instead, the companies recruiting at Harvard Business School today include Goldman Sachs, McKinsey & Company, private equity firms, and the like.

Because it has overshot what so many companies can utilize—that is, they simply cannot afford to hire Harvard MBAs—the business school is being disrupted at the bottom of its core market by corporations setting up their own universities for their best employees. There's Intel University, for example, and the GE Crotonville campus, which has a good reputation and brand. Part-time MBA programs and online

course offerings are proliferating too. The opportunity cost of these alternatives is far lower than traditional business schools, and they present more efficient ways to do the jobs that people hire business schools to do.

Harvard Business School (HBS) students hire it to do a number of jobs, including:

- Help me solve this problem
- Teach me what I need to know to become a great manager
- Give me the credentials I need to get my next, more-lucrative job
- Help me switch careers
- Help me join a prestigious network
- Allow me to benefit from your brand

Today, about one-third of HBS's revenue and about one-half of its profits derive from executive education programs focused on the first job, helping to solve specific problems. Corporate universities have picked off the next two jobs—teach me how to become a great manager and give me the credentials I need to move on to a better job—and they are working very hard on helping their students switch careers.

HBS still holds the advantage in accomplishing the last two jobs, which relate to networking, connections, and brand. Indeed, survey research has found that these are the primary jobs students enrolling in elite business schools want to accomplish. No institutional mission statements focus on these jobs, however.

Enabled largely by technology, the market for business education has matured from an integrated model to a modular, open architecture that discrete jobs can be pulled out of. HBS, for example, publishes 80% of its cases; those, accompanied by workbooks and DVDs, make it possible for any corporate training program to be quite good. In that respect, the HBS faculty have to some extent been commoditized. Analogous situations abound: In health care, implant manufacturers have made hip and knee replacement so foolproof that orthopedic surgeons' profits per replacement operation have declined dramatically. Bloomberg has commoditized Wall Street analysts: A great analyst today just needs to know which button to push to access Bloomberg's data—not a Wharton MBA.

In the old integrated business school model, HBS provided the teaching. But now, if HBS wants to continue to be influential and relevant beyond offering prestigious networking and branding, it needs to escape the idea that it can bring the best to Harvard, educate and send them back out, and that as a result Harvard's knowledge and insight will somehow trickle out. We need to influence management education where it is happening. Just 10% of all management education today is occurring in business schools. HBS needs to become the

“intel inside” corporate training and online business programs. That's a very different business model than that in which HBS has been engaged.

HBS needs to completely rethink its architecture. It will not be enough to simply improve its individual components, nor to change the specifications of how those components work together. The rebuilding task demands a team comprising experts who don't represent their departments or divisions and who can think outside the current organizational structure. The new structure should free itself of its interdependencies, which force standardization so that all the parts can work together, and instead should allow for modularity and customization. K–12 and undergraduate education suffer from the same constraints: In achieving the economies inherent in standardization, they sacrifice the ability to teach in the many ways that students actually learn. I am convinced that in order to teach students in the ways that their brains are wired to learn, we must migrate the instructional job away from the teacher to the computer and software programs that customize students' learning experiences.

Conclusion

Colleges and universities are being disrupted in many ways similar to Harvard Business School. One job they do for students that will be hard to disrupt is giving them an independent and parent-free experience. For highly selective schools, the other difficult-to-disrupt jobs have to do with networking, connections, and brand. Again, however, these jobs have nothing to do with the core missions of colleges and universities.

Further, just a small percentage of all students are enrolled in highly selective, branded institutions. Most everyone else is primarily interested in gaining the skills necessary to pursue an interesting career—and in that regard the nation's four-year colleges and universities are being disrupted by community colleges faster than they realize. The fact is that there are more cost-effective and even performance-effective ways to teach and learn economics and history, science and math, and so on than via traditional—and increasingly costly—colleges and universities. The nation's top institutions—the original leaders in the higher education market—are moving up the quality chain and losing touch with the mainstream. It is time that they completely rethink their model.

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