

# Selections from *The Innovator's Solution*

Clayton M. Christensen and Michael E. Raynor

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## **Introduction**

*The Innovator's Dilemma* identified two distinct categories—sustaining and disruptive—based on the *circumstances* of innovation. In *sustaining circumstances*—when the race entails making better products that can be sold for more money to attractive customers—we found that incumbents almost always prevail. In *disruptive circumstances*—when the challenge is to commercialize a simpler, more convenient product that sells for less money and appeals to a new or unattractive customer set—the entrants are likely to beat the incumbents. This is the phenomenon that so frequently defeats successful companies. It implies, of course, that the best way for upstarts to attack established competitors is to disrupt them.

Few technologies or business ideas are intrinsically sustaining or disruptive in character. Rather, their disruptive impact must be molded into a strategy as managers shape the idea into a plan and then implement it. Successful new-growth builders know—either intuitively or explicitly—that disruptive strategies greatly increase the odds of competitive success.

## **The Disruptive Innovation Model**

*The Innovator's Dilemma* identified three critical elements of disruption. First, in every market there is a rate of improvement that customers can utilize or absorb, represented by the line sloping gently upward in the performance *vs.* time graph. For example, automobile companies keep giving us new and improved engines, but we can't utilize all the performance that they make available under the hood. Factors such as traffic jams, speed limits, and safety concerns constrain how much performance we can use.

To simplify the chart, we depict customers' ability to utilize improvement as a single line. In reality, there is a distribution of customers around this median: There are many such lines, or tiers, in a market. Customers in the highest or most demanding tiers may never be satisfied with the best that is available, and those in the lowest or least demanding tiers can be oversatisfied with very little. The single line represents technology that is "good enough" to serve customers' needs.

Second in every market there is a distinctly different trajectory of improvement that innovating companies provide as they introduce new and improved products. This pace of technological progress almost always outstrips the ability of customers in any given tier of the market to use it, as the more steeply sloping lines in the graph suggest. Thus, a company whose products are squarely positioned on mainstream customers' current needs today will probably overshoot what those same customers are able to utilize in the future. This happens because companies keep striving to make better products that they can sell for higher margins to the not-yet-satisfied customers in more demanding tiers of the market.

The third critical element of the model is the distinction between sustaining and disruptive innovation. A *sustaining innovation* targets demanding, high-end customers with better performance than what was previously available. Some sustaining innovations are the incremental year-by-year improvements that all good companies grind out. Other sustaining innovations are breakthrough, leapfrog-beyond-the-competition products. It doesn't matter how technologically difficult the innovation is, however: The established competitors almost always win the battles of sustaining technology. Because this strategy entails making a better product that they can sell for higher profit margins to their best competitors, the established competitors have powerful motivations to fight sustaining battles. And they have the resources to win.

*Disruptive innovations*, in contrast, don't attempt to bring better products to established customers in existing markets. Rather, they disrupt and redefine that trajectory by introducing products and services that are not as good as currently available products. but disruptive technologies offer other benefits—typically, they are simpler, more convenient, and less expensive products that appeal to new or less-demanding customers.<sup>1</sup>

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<sup>1</sup>After watching students read, interpret, and talk about this distinction between sustaining and disruptive technologies, we have observed a stunningly common human tendency to take a new concept, new data, or a new way of thinking and morph it so that it fits in one's existing mental models. Hence, many people have equated our use of the

Once the disruptive product gains a foothold in new or low-end markets, the improvement cycle begins. And because the pace of technological progress outstrips customers' abilities to use it, the previously not-good-enough technology eventually improves enough to intersect with the needs of more demanding customers. When that happens, the disruptors are on a path that will ultimately crush the incumbents. this distinction is important for innovators seeking to create new-growth businesses. Whereas the current leaders of the industry almost always triumph in battles of sustaining innovation, successful disruptions have been launched most often by entrant companies.

Disruption has a paralyzing effect on industry leaders. With resource allocation processes designed and perfected to support sustaining innovations, they are constitutionally unable to respond. they are always motivated to go up-market, and almost never motivated to defend the new or low-end markets that the disruptors find attractive. We call this phenomenon *asymmetric motivation*. It is the core of the innovator's dilemma, and the beginning of the innovator's solution.

## Two Types of Disruption

For the sake of simplicity, *The Innovator's Dilemma* presented the disruptive innovation diagram in only two dimensions. In reality, there are two different types of disruptions. Our original dimensions—time and performance—define a particular market application in which customers purchase and use a product or service. In geometric terms, this application and set of customers reside in a plane of competition and consumption, which *The Innovator's Dilemma* called a *value network*. A value network is the context within which a firm establishes a cost structure and operating processes and works with suppliers and channel partners in order to respond profitably to the common needs of a class of customers. Within a value network, each firm's

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term *sustaining innovation* with their preexisting frame of “incremental” innovation, and they have equated the term *disruptive technology* with the words *radical*, *breakthrough*, *out-of-the-box*, or *different*. They then conclude that disruptive ideas (as they define the term) are good and merit investment. We regret that this happens, because our findings relate to a very specific definition of disruptiveness, as stated in our text here. It is for this reason that in this book we have substituted the term *disruptive innovation* for the term *disruptive technology*—to minimize the chance that readers will twist the concept to fit into what we believe is an incorrect way of categorizing the circumstances.

competitive strategy, and particularly its cost structure and its choices of markets and customers to serve, determines its perceptions of the economic value of an innovation. These perceptions, in turn, shape the rewards and threats that firms expect to experience through disruptive versus sustaining innovations.

The third dimension represents new context of consumption and competition, which are new value networks. These constitute either new customers who previously lacked the money or skills to buy and use the product, or different situations in which a product can be used—enabled by improvements in simplicity, portability, and product cost. For each of these new value networks, a vertical axis can be drawn representing a product’s performance as it is defined in that context (which is a different measure from what is valued in the original value network).

Different value networks can emerge at differing distances from the original one along the new third dimension of the disruption diagram. In the following discussion, we will refer to disruptions that create a new value network on the third axis as *new-market disruptions*. In contrast, *low-end disruptions* are those that attack the least-profitable and most overserved customers at the low end of the original value network.

## **New-Market Disruptions**

We say that new-market disruptions compete with “nonconsumption” because new-market disruptive products are so much more affordable to own and simpler to use that they enable a whole new population of people to begin owning and using the product, and to do so in a more convenient setting. The personal computer and Sony’s first battery-powered transistor pocket radio were new-market disruptions, in that their initial customers were new consumers—they had not owned or used the prior generation of products and services. Canon’s desktop photocopiers were also a new-market-disruption, in that they enabled people to begin conveniently making their own photocopies around the corner from their offices, rather than taking their originals to the corporate high-speed photocopy center where a technician had to run the job for them. When Canon made photocopying so convenient, people ended up making *a lot* more copies. New-market disruptors’ challenge is to create a new value network, where it is nonconsumption, not the incumbent, that must be overcome.

Although new-market disruptions initially compete against nonconsump-

tion in their unique value network, as their performance improves they ultimately become good enough to pull customers out of the original value network into the new one, starting with the least-demanding tier. The disruptive innovation doesn't invade the mainstream market; rather, it pulls customers out of the mainstream value network into the new one because these customers find it more convenient to use the new product.

Because new-market disruptions compete against nonconsumption, the incumbent leaders feel no pain and little threat until the disruption is in its final stages. In fact, when the disruptors begin pulling customers out of the low end of the original value network, it actually does good to the leading firms, because as they move up-market in their own world, for a time they are replacing the low-margin revenues that disruptors steal, with higher-margin revenues from sustaining innovations.

## Low-End Disruptions

We call disruptions that take root at the low end of the original or mainstream value network *low-end* disruptions. Disruptions such as steel minimills, discount retailing, and the Korean automakers' entry into the North American market have been pure low-end disruption in that they did not create new markets—they were simply low-cost business models that grew by picking off the least attractive of the established firms' customers. Although they are different, new-market and low-end disruptions both create the same vexing dilemma for incumbents. New-market disruptions induce incumbents to ignore the attackers, and low-end disruptions motivate the incumbents to flee the attack.

Low-end disruption has occurred several times in retailing. For example, full-service department stores had a business model that enabled them to turn inventories three times per year. They needed to earn 40 percent gross margins to make money within their cost structure. They therefore earned 40 percent three times each year, for a 120 percent annual return on capital invested in inventory (ROCI). In the 1960s, discount retailers such as Wal-Mart and Kmart attacked the low end of the department stores' market—nationally branded hard goods such as paint, hardware, kitchen utensils, toys, and sporting goods—that were so familiar in use that they could sell themselves. Customers in this tier of the market were overserved by department stores, in that they did not need well-trained floor salespeople to help them get what they needed. This discounters' business model enabled them to

make money at gross margins of about 23 percent, on average. Their stocking policies and operating processes enabled them to turn inventories more than five times annually, so that they also earned about 120 percent annual ROIC. The discounters did not accept lower levels of profitability—their business model simply earned acceptable profit through a different formula.

It is very hard for established firms *not* to flee from a low-end disruptor. Consider, for example, the choice that executives of full-service department stores had to make when the discount retailers were attacking the branded hard goods at the low end of department stores' merchandise mix. Retailers' critical resource allocation decision is the use of floor or shelf space. One option for department store executives was to allocate more space to even higher-margin cosmetics and high-fashion apparel, where gross margins often exceeded 50 percent. Because their business model turned inventories three times annually, this option promised 150 percent ROIC.

The alternative was to defend the branded hard goods businesses, which the discounters were attacking with prices 20 percent below those of department stores. Competing against the discounters at those levels would send margins plummeting to 20 percent, which, given the three-times inventory turns that were on average inherent in their business model, entailed a ROIC of 60 percent. It thus made perfect sense for the full-service department stores to flee—to get out of the very tiers of the market that the discounters were motivated to enter.

Many disruptions are hybrids, combining new-market and low-end approaches. The third dimension is a continuous mixture of new-market and low-end disruption to greater or lesser degree. Southwest Airlines is actually a hybrid disruptor, for example. It initially targeted customers who weren't flying—people who had previously used cars and buses. But Southwest pulled customers out of the low end of the major airlines' value network as well. Charles Schwab is a hybrid disruptor. It stole some customers from full-service brokers with its discounted trading fees, but it also created new markets by enabling people who historically were not equity investors—such as students—to begin owning and trading stocks.