Defeating Feature Fatigue

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Make Sure *All* Your Products Are Profitable, 2nd Edition

Ninety percent of new products fail once they hit the shelves. How will you reverse those odds?

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Collection Overview

Most new products don't generate the expected profits. Why? We develop them to suit the "needs" of statistically average customers—not real human beings—so consumers reject them. We also expect a new offering to expand sales in its product category. But people don't eat more or shampoo more frequently just because they have more product choices. Increasing the number of offerings also introduces costly complexity into our operations, shrinking margins. Finally, to boost revenues, we add features upon features to products—making them so difficult to use that customers return them and take their business elsewhere.

Products generate profits only when they meet consumers' needs *and* people are willing to pay enough for the value they offer. How to meet both criteria? Consider these strategies:

- Ask *real* people what "jobs" they want to get done. Then develop offerings they'll "hire" for those jobs. FedEx, for instance, expertly performs the "I need to send this from here to there with perfect certainty as fast as possible" job.
- Rather than continually extending product lines, build market share for your core offerings—those accounting for most of your sales. You'll enjoy healthier margins.
- Gauge every potential new product's impact on revenues and costs. Introduce variety only if the costs of doing so won't outweigh the new revenues.
- Instead of offering feature-heavy products that try to do it all, provide a variety of simpler products—each tailored to a particular customer segment.

Your reward for developing products strategically? Handsome profits—and happy customers.

The Articles

Harvard Business Review OnPoint

1st article from the collection:
Make Sure *All* Your Products Are Profitable

Marketing Malpractice

The Cause and the Cure

by Clayton M. Christensen, Scott Cook, and Taddy Hall

Included with this full-text *Harvard Business Review* article:

Product 2386

Marketing Malpractice

The Cause and the Cure

The Idea in Brief

Thirty thousand new consumer products hit store shelves each year. Ninety percent of them fail. Why? We're using misguided market-segmentation practices. For instance, we slice markets based on customer type and define the needs of representative customers in those segments. But actual human beings don't behave like statistically average customers. The consequences? We develop new and enhanced products that don't meet real people's needs.

Here's a better way: Instead of trying to understand the "typical" customer, find out what jobs people want to get done. Then develop **purpose brands:** products or services consumers can "hire" to perform those jobs. FedEx, for example, designed its service to perform the "I-need-to-send-this-from-here-to-there-with-perfect-certainty-as-fast-as-possible" job. FedEx was so much more convenient, reliable, and reasonably priced than the alternatives—the U.S. Postal Service or couriers paid to sit on airlines—that businesspeople around the globe started using "FedEx" as a verb.

A clear purpose brand acts as a two-sided compass: One side guides customers to the right products. The other guides your designers, marketers, and advertisers as they develop and market new and improved products. The payoff? Products your customers consistently value—and brands that deliver sustained profitable growth to your company.

The Idea in Practice

To establish, sustain, and extend your purpose brands:

Observe Consumers in Action

By observing and interviewing people as they're using products, identify jobs they want to get done. Then think of new or enhanced offerings that could do the job better.

▶ Example:

A fast-food restaurant wanted to improve milk-shake sales. A researcher watched customers buying shakes, noting that 40% of shakes were purchased by hurried customers early in the morning and carried out to customers' cars. Interviews revealed that most customers bought shakes to do a similar job: make their commute more interesting, stave off hunger until lunchtime, and give them something they could consume cleanly with one hand. Understanding this job inspired several product-improvement ideas. One example: Move the shake-dispensing machine to the front of the counter and sell customers a prepaid swipe card, so they could dispense shakes themselves and avoid the slow drive-through lane.

Link Products to Jobs through Advertising

Use advertising to clarify the nature of the job your product performs and to give the product a name that reinforces awareness of its purpose. Savvy ads can even help consumers identify needs they weren't consciously aware of before.

▶ Example:

Unilever's Asian operations designed a microwavable soup tailored to the job of helping office workers boost their energy and productivity in the late afternoon. Called Soupy Snax, the product generated mediocre results. When Unilever renamed it Soupy Snax—4:00 and created ads showing lethargic workers perking up after using the product, ad viewers remarked, "That's what happens to me at 4:00!" Soupy Snax sales soared.

Extend Your Purpose Brand

If you extend your purpose brand onto products that do different jobs—for example, a toothpaste that freshens breath *and* whitens teeth *and* reduces plaque—customers may become confused and lose trust in your brand.

To extend your brand without destroying it:

- **Develop different products that address a common job.** Sony did this with its various generations of Walkman that helped consumers "escape the chaos in my world."
- **Identify new, related jobs and create purpose brands for them.** Marriott International extended its hotel brand, originally built around full-service facilities designed for large meetings, to other types of hotels. Each new purpose brand had a name indicating the job it was designed to do. For instance, Courtyard Marriott was "hired" by individual business travelers seeking a clean, quiet place to get work done in the evening. Residence Inn was hired by longer-term travelers.

Marketing executives focus too much on ever-narrower demographic segments and ever-more-trivial product extensions. They should find out, instead, what jobs consumers need to get done. Those jobs will point the way to purposeful products—and genuine innovation.

Marketing Malpractice

The Cause and the Cure

by Clayton M. Christensen, Scott Cook, and Taddy Hall

Thirty thousand new consumer products are launched each year. But over 90% of them fail—and that's after marketing professionals have spent massive amounts of money trying to understand what their customers want. What's wrong with this picture? Is it that market researchers aren't smart enough? That advertising agencies aren't creative enough? That consumers have become too difficult to understand? We don't think so. We believe, instead, that some of the fundamental paradigms of marketing—the methods that most of us learned to segment markets, build brands, and understand customers—are broken. We're not alone in that judgment. Even Procter & Gamble CEO A.G. Lafley, arguably the best-positioned person in the world to make this call, says, "We need to reinvent the way we market to consumers. We need a new model."

To build brands that mean something to customers, you need to attach them to products that mean something to customers. And to do that, you need to segment markets in ways that reflect how customers actually live their lives. In this article, we will propose a way to reconfigure the principles of market segmentation. We'll describe how to create products that customers will consistently value. And finally, we will describe how new, valuable brands can be built to truly deliver sustained, profitable growth.

Broken Paradigms of Market Segmentation

The great Harvard marketing professor Theodore Levitt used to tell his students, "People don't want to buy a quarter-inch drill. They want a quarter-inch hole!" Every marketer we know agrees with Levitt's insight. Yet these same people segment their markets by type of drill and by price point; they measure market share of drills, not holes; and they benchmark the features and functions of their drill, not their hole, against those of rivals. They then set to work offering more features and functions in the belief that these will translate into better pricing and market share. When marketers do this, they often solve the wrong problems, improving their products in ways that are irrelevant to their customers' needs.

Segmenting markets by type of customer is no better. Having sliced business clients into small, medium, and large enterprises—or having shoehorned consumers into age, gender, or lifestyle brackets—marketers busy themselves with trying to understand the needs of representative customers in those segments and then create products that address those needs. The problem is that customers don't conform their desires to match those of the average consumer in their demographic segment. When marketers design a product to address the needs of a typical customer in a demographically defined segment, therefore, they cannot know whether any specific individual will buy the product—they can only express a likelihood of purchase in probabilistic terms.

Thus the prevailing methods of segmentation that budding managers learn in business schools and then practice in the marketing departments of good companies are actually a key reason that new product innovation has become a gamble in which the odds of winning are horrifyingly low.

There is a better way to think about market segmentation and new product innovation. The structure of a market, seen from the customers' point of view, is very simple: They just need to get things done, as Ted Levitt said. When people find themselves needing to get a job done, they essentially hire products to do that job for them. The marketer's task is therefore to understand what jobs periodically arise in customers' lives for which they might hire products the company could make. If a marketer can understand the job, design a product and associated experiences in purchase and use to do that job, and deliver it in a way that reinforces its intended use, then when customers find themselves needing to get that job done, they will hire that product.

Since most new-product developers don't think in those terms, they've become much too good at creating products that don't help customers do the jobs they need to get done. Here's an all-too-typical example. In the mid-1990s, Scott Cook presided over the launch of a software product called the Quicken Financial Planner, which helped customers create a retirement plan. It flopped. Though it captured over 90% of retail sales in its product category, annual revenue never surpassed $2 million, and it was eventually pulled from the market.

What happened? Was the $49 price too high? Did the product need to be easier to use? Maybe. A more likely explanation, however, is that while the demographics suggested that lots of families needed a financial plan, constructing one actually wasn't a job that most people were looking to do. The fact that they should have a financial plan, or even that they said they should have a plan, didn't matter. In hindsight, the fact that the design team had had trouble finding enough "planners" to fill a focus group should have tipped Cook off. Making it easier and cheaper for customers to do things that they are not trying to do rarely leads to success.

Designing Products That Do the Job

With few exceptions, every job people need or want to do has a social, a functional, and an emotional dimension. If marketers understand each of these dimensions, then they can design a product that's precisely targeted to the job. In other words, the job, not the customer, is the fundamental unit of analysis for a marketer who hopes to develop products that customers will buy.

To see why, consider one fast-food restaurant's effort to improve sales of its milk shakes. (In this example, both the company and the product have been disguised.) Its marketers first defined the market segment by product—milk shakes—and then segmented it further by profiling the demographic and personality characteristics of those customers who frequently bought milk shakes. Next, they invited people who fit this profile to evaluate whether making the shakes thicker, more chocolaty, cheaper, or chunkier would satisfy them better. The panelists gave clear feedback, but the consequent improvements to the product had no impact on sales.

A new researcher then spent a long day in a restaurant seeking to understand the jobs that customers were trying to get done when they hired a milk shake. He chronicled when each milk shake was bought, what other products the customers purchased, whether these consumers were alone or with a group, whether they consumed the shake on the premises or drove off with it, and so on. He was surprised to find that 40% of all milk shakes were purchased in the early morning. Most often, these early-morning customers were alone; they did

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To build brands that mean something to customers, you need to attach them to products that mean something to customers.

not buy anything else; and they consumed their shakes in their cars.

The researcher then returned to interview the morning customers as they left the restaurant, shake in hand, in an effort to understand what caused them to hire a milk shake. Most bought it to do a similar job: They faced a long, boring commute and needed something to make the drive more interesting. They weren't yet hungry but knew that they would be by 10 AM; they wanted to consume something now that would stave off hunger until noon. And they faced constraints: They were in a hurry, they were wearing work clothes, and they had (at most) one free hand.

The researcher inquired further: "Tell me about a time when you were in the same situation but you didn't buy a milk shake. What did you buy instead?" Sometimes, he learned, they bought a bagel. But bagels were too dry. Bagels with cream cheese or jam resulted in sticky fingers and gooey steering wheels. Sometimes these commuters bought a banana, but it didn't last long enough to solve the boring-commute problem. Doughnuts didn't carry people past the 10 AM hunger attack. The milk shake, it turned out, did the job better than any of these competitors. It took people 20 minutes to suck the viscous milk shake through the thin straw, addressing the boring-commute problem. They could consume it cleanly with one hand. By 10:00, they felt less hungry than when they tried the alternatives. It didn't matter much that it wasn't a healthy food, because becoming healthy wasn't essential to the job they were hiring the milk shake to do.

The researcher observed that at other times of the day parents often bought milk shakes, in addition to complete meals, for their children. What job were the parents trying to do? They were exhausted from repeatedly having to say "no" to their kids. They hired milk shakes as an innocuous way to placate their children and feel like loving parents. The researcher observed that the milk shakes didn't do this job very well, though. He saw parents waiting impatiently after they had finished their own meals while their children struggled to suck the thick shakes up through the thin straws.

Customers were hiring milk shakes for two very different jobs. But when marketers had originally asked individual customers who hired a milk shake for either or both jobs which of its attributes they should improve—and when these responses were averaged with those of other customers in the targeted demographic segment—it led to a one-size-fits-none product.

Once they understood the jobs the customers were trying to do, however, it became very clear which improvements to the milk shake would get those jobs done even better and which were irrelevant. How could they tackle the boring-commute job? Make the milk shake even thicker, so it would last longer. And swirl in tiny chunks of fruit, adding a dimension of unpredictability and anticipation to the monotonous morning routine. Just as important, the restaurant chain could deliver the product more effectively by moving the dispensing machine in front of the counter and selling customers a prepaid swipe card so they could dash in, "gas up," and go without getting stuck in the drive-through lane. Addressing the midday and evening job to be done would entail a very different product, of course.

By understanding the job and improving the product's social, functional, and emotional dimensions so that it did the job better, the company's milk shakes would gain share against the real competition—not just competing chains' milk shakes but bananas, boredom, and bagels. This would grow the category, which brings us to an important point: Job-defined markets are generally much larger than product category-defined markets. Marketers who are stuck in the mental trap that equates market size with product categories don't understand whom they are competing against from the customer's point of view.

Notice that knowing how to improve the product did not come from understanding the "typical" customer. It came from understanding the job. Need more evidence?

Pierre Omidyar did not design eBay for the "auction psychographic." He founded it to help people sell personal items. Google was designed for the job of finding information, not for a "search demographic." The unit of analysis in the work that led to Procter & Gamble's stunningly successful Swiffer was the job of cleaning floors, not a demographic or psychographic study of people who mop.

Why do so many marketers try to understand the consumer rather than the job? One reason may be purely historical: In some of the markets in which the tools of modern market research were formulated and tested, such as feminine hygiene or baby care, the job was so closely aligned with the customer demographic that if you understood the customer, you would also understand the job. This coincidence is rare, however. All too frequently, marketers' focus on the customer causes them to target phantom needs.

How a Job Focus Can Grow Product Categories

New growth markets are created when innovating companies design a product and position its brand on a job for which no optimal product yet exists. In fact, companies that historically have segmented and measured the size of their markets by product category generally find that when they instead segment by job, their market is much larger (and their current share of the job is much smaller) than they had thought. This is great news for smart companies hungry for growth.

Understanding and targeting jobs was the key to Sony founder Akio Morita's approach to disruptive innovation. Morita never did conventional market research. Instead, he and his associates spent much of their time watching what people were trying to get done in their lives, then asking themselves whether Sony's electronics miniaturization technology could help them do these things better, easier, and cheaper. Morita would have badly misjudged the size of his market had he simply analyzed trends in the number of tape players being sold before he launched his Walkman. This should trigger an action item on every marketer's to-do list: Turn off the computer, get out of the office, and observe.

Consider how Church & Dwight used this strategy to grow its baking soda business. The company has produced Arm & Hammer baking soda since the 1860s; its iconic yellow box and Vulcan's hammer-hefting arm have become enduring visual cues for "the standard of purity." In the late 1960s, market research director Barry Goldblatt tells us, management began observational research to understand the diverse circumstances in which consumers found themselves with a job to do where Arm & Hammer could be hired to help. They found a few consumers adding the product to laundry detergent, a few others mixing it into toothpaste, some sprinkling it on the carpet, and still others placing open boxes in the refrigerator. There was a plethora of jobs out there needing to get done, but most customers did not know that they could hire Arm & Hammer baking soda for these cleaning and fresh-

Purpose Brands and Disruptive Innovations

We have written elsewhere about how to harness the potential of disruptive innovations to create growth. Because disruptive innovations are products or services whose performance is not as good as mainstream products, executives of leading companies often hesitate to introduce them for fear of destroying the value of their brands. This fear is generally unfounded, provided that companies attach a unique purpose brand to their disruptive innovations.

Purpose branding has been the key, for example, to Kodak's success with two disruptions. The first was its single-use camera, a classic disruptive technology. Because of its inexpensive plastic lenses, the new camera couldn't take the quality of photographs that a good 35-millimeter camera could produce on Kodak film. The proposition to launch a single-use camera encountered vigorous opposition within Kodak's film division. The corporation finally gave responsibility for the opportunity to a completely different organizational unit, which launched single-use cameras with a purpose brand—the Kodak FunSaver. This was a product customers could hire when they needed to save memories of a fun time but had forgotten to bring a camera or didn't want to risk harming their expensive one. Creating a purpose brand for a disruptive job differentiated the product, clarified its intended use, delighted the customers, and thereby strengthened the endorsing power of the Kodak brand. Quality, after all, can only be measured relative to the job that needs to be done and the alternatives that can be hired to do it. (Sadly, a few years ago, Kodak pushed aside the FunSaver purpose brand in favor of the word "Max," which now appears on its single-use cameras, perhaps to focus on selling film rather than the job the film is for.)

Kodak scored another purpose-branding victory with its disruptive EasyShare digital camera. The company initially had struggled for differentiation and market share in the head-on megapixel and megazoom race against Japanese digital camera makers (all of whom aggressively advertised their corporate brands but had no purpose brands). Kodak then adopted a disruptive strategy that was focused on a job—sharing fun. It made an inexpensive digital camera that customers could slip into a cradle, click "attach" in their computer's e-mail program, and share photos effortlessly with friends and relatives. Sharing fun, not preserving the highest resolution images for posterity, is the job—and Kodak's EasyShare purpose brand guides customers to a product tailored to do that job. Kodak is now the market share leader in digital cameras in the United States.

ening jobs. The single product just wasn't giving customers the guidance they needed, given the many jobs it could be hired to do.

Today, a family of job-focused Arm & Hammer products has greatly grown the baking soda product category. These jobs include:

- Help my mouth feel fresh and clean (Arm & Hammer Complete Care toothpaste)
- Deodorize my refrigerator (Arm & Hammer Fridge-n-Freezer baking soda)
- Help my underarms stay clean and fresh (Arm & Hammer Ultra Max deodorant)
- Clean and freshen my carpets (Arm & Hammer Vacuum Free carpet deodorizer)
- Deodorize kitty litter (Arm & Hammer Super Scoop cat litter)
- Make my clothes smell fresh (Arm & Hammer Laundry Detergent).

The yellow-box baking soda business is now less than 10% of Arm & Hammer's consumer revenue. The company's share price has appreciated at nearly four times the average rate of its nearest rivals, P&G, Unilever, and Colgate-Palmolive. Although the overall Arm & Hammer brand is valuable in each instance, the key to this extraordinary growth is a set of job-focused products and a communication strategy that help people realize that when they find themselves needing to get one of these jobs done, here is a product that they can trust to do it well.

Building Brands That Customers Will Hire

Sometimes, the discovery that one needs to get a job done is conscious, rational, and explicit. At other times, the job is so much a part of a routine that customers aren't really consciously aware of it. Either way, if consumers are lucky, when they discover the job they need to do, a branded product will exist that is perfectly and unambiguously suited to do it. We call the brand of a product that is tightly associated with the job for which it is meant to be hired a *purpose brand*.

The history of Federal Express illustrates how successful purpose brands are built. A job had existed practically forever: the I-need-to-send-this-from-here-to-there-with-perfect-certainty-as-fast-as-possible job. Some U.S. customers hired the U.S. Postal Service's airmail to do this job; a few desperate souls paid couriers to sit on airplanes. Others even went so far as to plan ahead so they could ship via UPS trucks. But each of these alternatives was kludgy, expensive, uncertain, or inconvenient. Because nobody had yet designed a service to do this job well, the brands of the unsatisfactory alternative services became tarnished when they were hired for this purpose. But after Federal Express designed its service to do that exact job, and did it wonderfully again and again, the FedEx brand began popping into people's minds whenever they needed to get that job done. FedEx became a purpose brand—in fact, it became a verb in the international language of business that is inextricably linked with that specific job. It is a very valuable brand as a result.

Most of today's great brands—Crest, Starbucks, Kleenex, eBay, and Kodak, to name a few—started out as just this kind of purpose brand. The product did the job, and customers talked about it. This is how brand equity is built.

Brand equity can be destroyed when marketers don't tie the brand to a purpose. When they seek to build a general brand that does not signal to customers when they should and should not buy the product, marketers run the risk that people might hire their product to do a job it was not designed to do. This causes customers to distrust the brand—as was the case for years with the post office.

A clear purpose brand is like a two-sided compass. One side guides customers to the right products. The other side guides the company's product designers, marketers, and advertisers as they develop and market improved and new versions of their products. A good purpose brand clarifies which features and functions are relevant to the job and which potential improvements will prove irrelevant. The price premium that the brand commands is the wage that customers are willing to pay the brand for providing this guidance on both sides of the compass.

The need to feel a certain way—to feel macho, sassy, pampered, or prestigious—is a job that arises in many of our lives on occasion. When we find ourselves needing to do one of these jobs, we can hire a branded product whose purpose is to provide such feelings. Gucci, Absolut, Montblanc, and Virgin, for example, are purpose brands. They link customers who have one of these jobs to do with experiences in purchase and use that do those jobs well. These might be called aspirational jobs. In some aspirational situations, it is the brand itself, more than the functional dimensions of the product, that gets the job done.

The Role of Advertising

Much advertising is wasted in the mistaken belief that it alone can build brands. Advertising cannot build brands, but it can tell people about an existing branded product's ability to do a job well. That's what the managers at Unilever's Asian operations found out when they identified an important job that arose in the lives of many office workers at around 4:00 in the afternoon. Drained of physical and emotional energy, people still had to get a lot done before their workday ended. They needed something to boost their productivity, and they were hiring a range of caffeinated drinks, candy bars, stretch breaks, and conversation to do this job, with mixed results.

Unilever designed a microwavable soup whose properties were tailored to that job—quick to fix, nutritious but not too filling, it can be consumed at your desk but gives you a bit of a break when you go to heat it up. It was launched into the workplace under the descriptive brand Soupy Snax. The results were mediocre. On a hunch, the brand's managers then relaunched the product with advertisements showing lethargic workers perking up after using the product and renamed the brand Soupy Snax—4:00. The reaction of people who saw the advertisements was, "That's exactly what happens to me at 4:00!" They needed something to help them consciously discover both the job and the product they could hire to do it. The tagline and ads transformed a brand that had been a simple description of a product into a purpose brand that clarified the nature of the job and the product that was designed to do it, and the product has become very successful.

Note the role that advertising played in this process. Advertising clarified the nature of the job and helped more people realize that they had the job to do. It informed people that there was a product designed to do that job and gave the product a name people could remember. Advertising is not a substitute for designing products that do specific jobs and ensuring that improvements in their features and functions are relevant to that job. The fact is that most great brands were built before their owners started advertising. Think of Disney, Harley-Davidson, eBay, and Google. Each brand developed a sterling reputation before much was spent on advertising.

Advertising that attempts to short-circuit this process and build, as if from scratch, a brand that people will trust is a fool's errand. Ford, Nissan, Macy's, and many other companies invest hundreds of millions to keep the corporate name or their products' names in the general consciousness of the buying public. Most of these companies' products aren't designed to do specific jobs and therefore aren't usually differentiated from the competition. These firms have few purpose brands in their portfolios and no apparent strategies to create them. Their managers are unintentionally transferring billions in profits to branding agencies in the vain hope that they can buy their way to glory. What is worse, many companies have decided that building new brands is so expensive they will no longer do so. Brand building by advertising is indeed prohibitively expensive. But that's because it's the wrong way to build a brand.

Marketing mavens are fond of saying that brands are hollow words into which meaning gets stuffed. Beware. Executives who think that brand advertising is an effective mechanism for stuffing meaning into some word they have chosen to be their brand generally succeed in stuffing it full of vagueness. The ad agencies and media companies win big in this game, but the companies whose brands are getting stuffed generally find themselves trapped in an expensive, endless arms race with competitors whose brands are comparably vague.

The exceptions to this brand-building rule are the purpose brands for aspirational jobs, where the brand must be built through images in advertising. The method for brand building that is appropriate for these jobs, however, has been wantonly and wastefully misapplied to the rest of the world of branding.

Extending—Or Destroying—Brand Equity

Once a strong purpose brand has been created, people within the company inevitably want to leverage it by applying it to other products. Executives should consider these proposals carefully. There are rules about the types of extensions that will reinforce the brand—and the types that will erode it.

If a company chooses to extend a brand onto other products that can be hired to do the same job, it can do so without concern that the extension will compromise what the brand does. For example, Sony's portable CD player, although a different product than its original Walkman-branded radio and cassette players, was positioned on the same job (the help-me-escape-the-chaos-in-my-world job). So the new product caused the Walkman brand to pop even more instinctively into customers' minds when they needed to get that job done. Had Sony not been asleep at the switch, a Walkman-branded MP3 player would have further enhanced this purpose brand. It might even have kept Apple's iPod purpose brand from preempting that job.

The fact that purpose brands are job specific means that when a purpose brand is extended onto products that target different jobs, it will lose its clear meaning as a purpose brand and develop a different character instead—an *endorser brand*. An endorser brand can impart a general sense of quality, and it thereby creates some value in a marketing equation. But general endorser brands lose their ability to guide people who have a particular job to do to products that were designed to do it. Without appropriate guidance, customers will begin using endorser-branded products to do jobs they weren't designed to do. The resulting bad experience will cause customers to distrust the brand. Hence, the value of an endorser brand will erode unless the company adds a second word to its brand architecture—a purpose brand alongside the endorser brand. Different jobs demand different purpose brands.

Marriott International's executives followed this principle when they sought to leverage the Marriott brand to address different jobs for which a hotel might be hired. Marriott had built its hotel brand around full-service facilities that were good to hire for large meetings. When it decided to extend its brand to other types of hotels, it adopted a two-word brand architecture that appended to the Marriott endorsement a purpose brand for each of the different jobs its new hotel chains were intended to do. Hence, individual business travelers who need to hire a clean, quiet place to get work done in the evening can hire Courtyard by Marriott—the hotel designed by business travelers for business travelers. Longer-term travelers can hire Residence Inn by Marriott, and so on. Even though these hotels were not constructed and decorated to the same premium standard as full-service Marriott hotels, the new chains actually reinforce the endorser qualities of the Marriott brand because they do the jobs well that they are hired to do.

Milwaukee Electric Tool has built purpose brands with two—and only two—of the products in its line of power tools. The Milwaukee Sawzall is a reciprocating saw that tradesmen hire when they need to cut through a wall quickly and aren't sure what's under the surface. Plumbers hire Milwaukee's Hole Hawg, a right-angle drill, when they need to drill a hole in a tight space. Competitors like Black & Decker, Bosch, and Makita offer reciprocating saws and right-angle drills with comparable performance and price, but none of them has a purpose brand that pops into a tradesman's mind when he has one of these jobs to do. Milwaukee has owned more than 80% of these two job markets for decades.

Interestingly, Milwaukee offers under its endorser brand a full range of power tools, including circular saws, pistol-grip drills, sanders, and jigsaws. While the durability and relative price of these products are comparable to those of the Sawzall and Hole Hawg, Milwaukee has not built purpose brands for any of these other products. The market share of each is in the low single digits—a testament to the clarifying value of purpose brands versus the general connotation of quality that endorser brands confer. Indeed, a clear purpose brand is usually a more formidable competitive barrier than superior product performance—because competitors can copy performance much more easily than they can copy purpose brands.

The tribulations and successes of P&G's Crest brand is a story of products that ace the customer job, lose their focus, and then bounce back to become strong purpose brands again. Introduced in the mid-1950s, Crest was a classic disruptive technology. Its Fluoristan-reinforced toothpaste made cavity-preventing fluoride treatments cheap and easy to apply at home, replacing an expensive and inconvenient trip to the dentist. Although P&G could have positioned the new product under its existing toothpaste brand, Gleem, its managers chose instead to build a new purpose brand, Crest, which was uniquely positioned on a job. Mothers who wanted to prevent cavities in their children's teeth knew when they saw or heard the word "Crest" that this product was designed to do that job. Because it did the job so well, mothers grew to trust the product and in fact became suspicious of the ability of products without the Crest brand to do that job. This unambiguous association made it a very valuable brand, and Crest passed all its U.S. rivals to become the clear market leader in toothpaste for a generation.

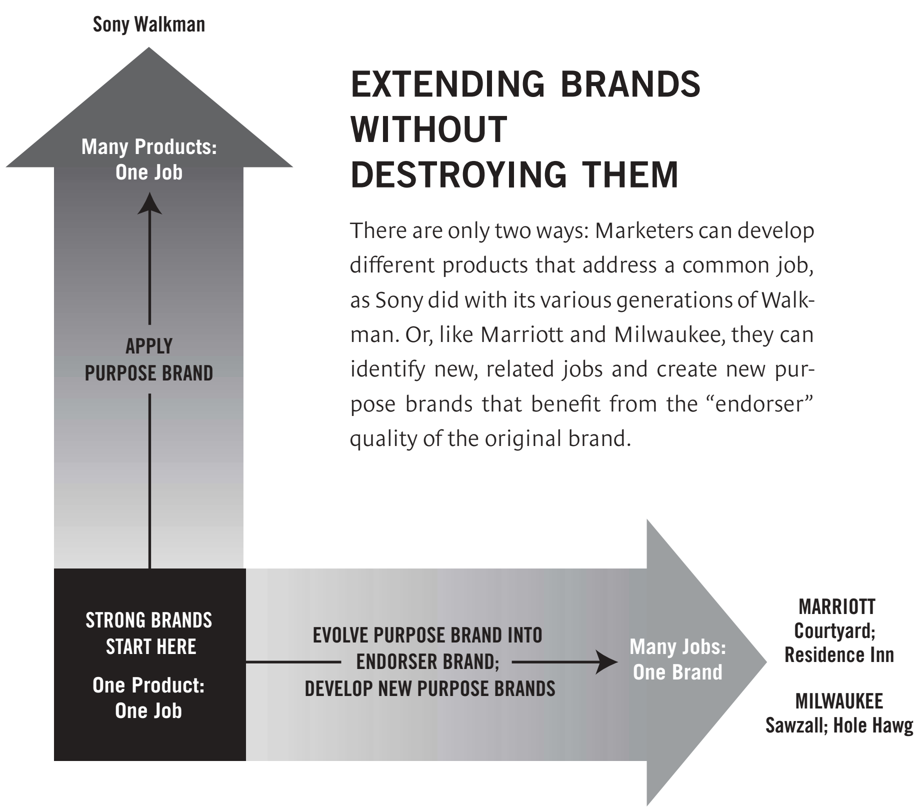
But one cannot sustain victory by standing still. Competitors eventually copied Crest's cavity prevention abilities, turning cavity prevention into a commodity. Crest lost share as competitors innovated in other areas, including flavor, mouthfeel, and commonsense ingredients like baking soda. P&G began copying and advertising these attributes. But unlike Marriott, P&G did not append purpose brands to the general endorsement of Crest, and the brand began losing its distinctiveness.

At the end of the 1990s, new Crest executives brought two disruptions to market, each with its own clear purpose brand. They acquired a start-up named Dr. John's and rebranded its flagship electric toothbrush as the Crest SpinBrush, which they sold for $5—far below the price of competitors' models of the time. They also launched Crest Whitestrips, which allowed people to whiten their teeth at home for a mere $25, far less than dentists charged. With these purpose-branded innovations, Crest generated substantial new growth and regained share leadership in the entire tooth care category.

The exhibit "Extending Brands Without Destroying Them" diagrams the two ways marketers can extend a purpose brand without eroding its value. The first option is to move up the vertical axis by developing different products that address a common job. This is what Sony did with its Walkman portable CD player. When Crest was still a clear purpose brand, P&G could have gone this route by, say, introducing a Crest-brand fluoride mouth rinse. The brand would have retained its clarity of purpose. But P&G did not, allowing Johnson & Johnson to insert yet another brand, ACT (its own fluoride mouth rinse), into the cavity-prevention job space. Because P&G pursued the second option, extending its brand along the horizontal axis to other jobs (whitening, breath freshening, and so on), the purpose brand morphed into an endorser brand.

EXTENDING BRANDS WITHOUT DESTROYING THEM

There are only two ways: Marketers can develop different products that address a common job, as Sony did with its various generations of Walkman. Or, like Marriott and Milwaukee, they can identify new, related jobs and create new purpose brands that benefit from the "endorser" quality of the original brand.



Why Strong Purpose Brands Are So Rare

Given the power that purpose brands have in creating opportunities for differentiation, premium pricing, and growth, isn't it odd that so few companies have a deliberate strategy for creating them?

Consider the automobile industry. There are a significant number of different jobs that people who purchase cars need to get done, but only a few companies have staked out any of these job markets with purpose brands. Range Rover (until recently, at least) was a clear and valuable purpose brand (the take-me-anywhere-with-total-dependability job). The Volvo brand is positioned on the safety job. Porsche, BMW, Mercedes, Bentley, and Rolls-Royce are associated with various aspirational jobs. The Toyota endorser brand has earned the connotation of reliability. But for so much of the rest? It's hard to know what they mean.

To illustrate: Clayton Christensen recently needed to deliver on a long-promised commitment to buy a car as a college graduation gift for his daughter Annie. There were functional and emotional dimensions to the job. The car needed to be stylish and fun to drive, to be sure. But even more important, as his beloved daughter was venturing off into the cold, cruel world, the big job Clay needed to get done was to know that she was safe and for his sweet Annie to be reminded frequently, as she owned, drove, and serviced the car, that her dad loves and cares for her. A hands-free telephone in the car would be a must, not an option. A version of GM's OnStar service, which called not just the police but Clay in the event of an accident, would be important. A system that reminded the occasionally absentminded Annie when she needed to have the car serviced would take a load off her dad's mind. If that service were delivered as a prepaid gift from her father, it would take another load off Clay's mind because he, too, is occasionally absentminded. Should Clay have hired a Taurus, Escape, Cavalier, Neon, Prizm, Corolla, Camry, Avalon, Sentra, Civic, Accord, Senator, Sonata, or something else? The billions of dollars that automakers spent advertising these brands, seeking somehow to create subtle differentiations in image, helped Clay not at all. Finding the best package to hire was very time-consuming and inconvenient, and the resulting product did the job about as unsatisfactorily as the milk shake had done, a few years earlier.

Focusing a product and its brand on a job creates differentiation. The rub, however, is that when a company communicates the job a branded product was designed to do perfectly, it is also communicating what jobs the product should not be hired to do. Focus is scary—at least the carmakers seem to think so. They deliberately create words as brands that have no meaning in any language, with no tie to any job, in the myopic hope that each individual model will be hired by every customer for every job. The results of this strategy speak for themselves. In the face of compelling evidence that purpose-branded products that do specific jobs well command premium pricing and compete in markets that are much larger than those defined by product categories, the automakers' products are substantially undifferentiated, the average subbrand commands less than a 1% market share, and most automakers are losing money. Somebody gave these folks the wrong recipe for prosperity.

• • •

Executives everywhere are charged with generating profitable growth. Rightly, they believe that brands are the vehicles for meeting their growth and profit targets. But success in brand building remains rare. Why? Not for lack of effort or resources. Nor for lack of opportunity in the marketplace. The root problem is that the theories in practice for market segmentation and brand building are riddled with flawed assumptions. Lafley is right. The model is broken. We've tried to illustrate a way out of the death spiral of serial product failure, missed opportunity, and squandered wealth. Marketers who choose to break with the broken past will be rewarded not only with successful brands but with profitably growing businesses as well.

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Marketing Malpractice

The Cause and the Cure

Further Reading

ARTICLES

Customer-Centered Brand Management
by Katherine N. Lemon, Roland T. Rust, and Valarie A. Zeithaml
Harvard Business Review
September 2004
Product no. 2955

Ignoring individual customers' needs can kill a brand. Too many companies, the authors argue, focus overwhelmingly on growing brand equity at the expense of growing customer equity—as GM did when it tried (and failed) to reposition its Oldsmobile brand to appeal to younger buyers. The authors describe seven tactics for avoiding such mistakes. For example, replace traditional brand managers with a new position: customer segment manager. Target brands to as narrow an audience possible. And develop the capability and mind-set to hand off customers from one brand to another within your company.

The Perfect Message at the Perfect Moment
by Kirthi Kalyanam and Monte Zweben
Harvard Business Review
November 2005
Product no. 219X

Providing customers with offerings they "hire" to do specific jobs isn't enough to ensure strong brands. You must also attend to customers' needs as they change—using database technology to send the right message, at the right time, and through the right channel. For example, when a steady, high-volume airline customer hadn't booked a flight in several months, a sales representative called and heard complaints of poor service. He logged the details into the database, triggering creation of a written apology from an executive, accompanied by an offer of automatic upgrades. When the account remained inactive, the airline sent the customer an incentive-reminder e-mail the next month. The customer finally bought a ticket and received a thank-you e-mail tailored to "saved" customers.

Disruptive Technologies: Catching the Wave
by Joseph L. Bower and Clayton M. Christensen
Harvard Business Review
May 2000
Product no. 3510

Continually enhancing your products to serve existing customers doesn't work: you risk providing more functionality than most customers need, at higher prices. When a cheaper or easier way to do a "job" comes to market, customers defect to competitors. To avoid this scenario, don't focus so narrowly on your main customers that you overlook opportunities to create "disruptive" products or services. Such offerings sacrifice some performance but provide new attributes that current customers don't yet know they need. For example, Sony's early transistor radios sacrificed sound fidelity but created a new market for small, portable radios. Nurture disruptive innovations on a modest scale, using rapid, inexpensive prototyping to generate product-development insights. And house these innovations in an independent entity, so they won't compete with established products for company resources.

Harvard Business Review OnPoint

2nd article from the collection:
Make Sure *All* Your Products Are Profitable

Extend Profits, Not Product Lines

by John A. Quelch and David Kenny

Included with this full-text *Harvard Business Review* article:

Product 2238

Extend Profits, Not Product Lines

The Idea in Brief

Too many companies pump out new product versions to boost sales and expand market share quickly and cheaply. But these short-term gains often come at the expense of long-term profits.

For one thing, product line extensions rarely expand category demand: People don't eat more, wash their hair more, or brush their teeth more just because they have more products to choose from. Extensions pose serious risks, too: They confuse customers—weakening your brand. And they carry hidden costs. For instance, suppliers charge you more because they can't buy raw materials in bulk. The ugly truth? Unit costs for your multi-item line are *25% to 45% higher* than the cost of producing only the most popular item in the line.

The smarter route to healthy margins and market share? **Focus** your product lines instead of continually extending them. Eliminate slow-moving products and channel your efforts into building market share for your core offerings—those accounting for most of your sales. Screen extension ideas to assess their potential revenues *and* costs.

Your reward? Strong margins—which you can reinvest to create true value for customers.

The Idea in Practice

Use these practices to scrutinize—and refine—your product-line strategies:

IMPROVE COST ACCOUNTING

Study the costs associated with producing and distributing each of your SKUs—from the beginning to the end of your value chain. Reappraise each SKU's profitability annually—more often for products subject to volatile demand patterns.

ALLOCATE RESOURCES TO WINNERS

Ensure that line extensions that appeal only to occasional users aren't consuming manufacturing capacity, advertising dollars, and other resources at the expense of offerings that account for the majority of your sales.

RESEARCH CONSUMER BEHAVIOR

Learn how consumers perceive and use each SKU. Do your core items have enduring appeal to loyal heavy users? Will a new line extension reinforce and expand usage among existing customers? Will demand for an existing, profitable product decline if you introduce cheaper new offerings?

APPLY THE PRODUCT LINE LOGIC TEST

Ensure that every salesperson can state—in one sentence—the strategic role that an extension plays in your product line. Mary Kay Cosmetics limits its product line to 225 SKUs, so its beauty consultants can explain each clearly. No item is added unless the company removes an existing SKU from the market.

WORK WITH DISTRIBUTION PARTNERS

Help distributors avoid the costs of stocking inventory and allocating shelf space to slow-moving SKUs that they'll have to remove later: Conduct in-store tests of new product ideas with leading distributors and retailers to gauge the sales and cost effects of adding new SKUs to a line. Your distribution partners' profitability—and yours—will improve.

MANAGE PRODUCT-LINE TURNOVER

Develop deletion plans for unprofitable items that can't be restored to profitability quickly and easily. Use discount coupons to entice loyal customers to purchase a substitute offering. Account for deletion costs such as raw-materials disposal and inventory markdowns. Decide how you'll use resources freed up by deletions.

▶ Example:
In 1992, Procter & Gamble decided to eliminate 15% to 25% of its slower-moving SKUs over 18 months. Why? Slow movers were increasing manufacturing and logistics costs, and retailers were threatening to drop them. After streamlining its product lines, P&G was able to close less productive plants, reduce marketing-management overhead, concentrate advertising on its strongest brands, and liberate shelf space for genuinely new products.

Unchecked product-line expansion can weaken a brand's image, disturb trade relations, and disguise cost increases.

Extend Profits, Not Product Lines

by John A. Quelch and David Kenny

In the last ten years, products have proliferated at an unprecedented rate in every category of consumer goods and services, and the deluge shows few signs of letting up. Most companies are pursuing product expansion strategies—in particular, line extensions—full steam ahead. At the same time, however, more and more evidence is indicating the pitfalls of such aggressive expansion if it is not well managed: hidden cost increases, weakened brand images, and troubled relations with distributors and retailers.

Unfortunately, in most organizations, managers have no incentive to question their product-line-extension strategies. Marketers argue for more line extensions to serve an increasingly segmented marketplace, and sales managers use extensions to justify hiring more salespeople. While manufacturing managers are concerned about the complexity of production and the finance department has a clear interest in cost control, the information systems needed to cull the data that would justify a more focused product line are often not in place.

How can companies encourage an objective assessment of product-line strategy? Ultimately, the remedy lies in proving that a focused, well-managed line leads to greater profits and is an asset for the entire organization. But first, senior managers must overcome some ingrained beliefs about the advantages of line extensions.

The Lure of Line Extensions

Seven factors explain why so many companies have pursued line extensions as a significant part of their marketing strategies.

Customer Segmentation. Managers perceive line extensions as a low-cost, low-risk way to meet the needs of various customer segments, and by using more sophisticated and lower-cost market techniques, they can identify and target finer segments more effectively than ever before. In addition, the depth of audience-profile information for television, radio, and print media has improved; managers can now translate complex segmentation schemes into efficient advertising plans.

Consumer Desires. More consumers than ever are switching brands and trying products they've never used before. Line extensions try to satisfy the desire for "something different" by providing a wide variety of goods under a single brand umbrella. Such extensions, companies hope, fulfill customers' desires while keeping them loyal to the brand franchise.

Moreover, according to studies conducted by the Point-of-Purchase Advertising Institute, consumers now make around two-thirds of their purchase decisions about grocery and health-and-beauty products on impulse while they are in the store. Line extensions, if stocked by the retailer, can help a brand increase its share of shelf space, thus attracting consumer attention. When marketers coordinate the packaging and labeling across all items in a brand line, they can achieve an attention-getting billboard effect on the store shelf or display stand and thus leverage the brand's equity.

Pricing Breadth. Managers often tout the superior quality of extensions and set higher prices for these offerings than for core items. In markets subject to slow volume growth, marketers can then increase unit profitability by trading current customers up to these "premium" products. In this way, even cannibalized sales are profitable—at least in the short run.

In a similar spirit, some line extensions are priced lower than the lead product. For example, American Express offers the Optima card for a lower annual fee than its standard card, and Marriott introduced the hotel chain Courtyard by Marriott to provide a lower-priced alternative to its standard hotels. Extensions give marketers the opportunity to offer a broader range of price points in order to capture a wider audience.

Excess Capacity. In the 1980s, many manufacturing operations added faster production lines to improve efficiency and quality. The same organizations, however, did not necessarily retire existing production lines. The resulting excess capacity encourages the introduction of line extensions that require only minor adaptations of current products.

Short-Term Gain. Next to sales promotions, line extensions represent the most effective and least imaginative way to increase sales quickly and inexpensively. The development time and costs of line extensions are far more predictable than they are for new brands, and less cross-functional integration is required.

In fact, few brand managers are willing to invest the time or assume the career risk to shepherd new brands to market. They are well aware of the following: major brands have staying power (almost all of the 20 brands that lead in consumer awareness were on that list 20 years ago); the cost of a successful brand launch in the United States is now estimated at \$30 million, versus \$5 million for a line extension; new branded products have a poor success rate (only one in five commercialized new on the market); and consumer goods technologies have matured and are widely accessible. Line extensions offer quick rewards with minimal risk.

Finally, senior managers often set objectives for the percentages of future sales to come from products recently introduced. At the same time, under pressure from Wall Street for quarterly earnings increases, they do not invest enough in the long-term research and development needed to create genuinely new products. Such actions necessarily encourage line extensions.

Competitive Intensity. Mindful of the link between market share and profitability, managers often see extensions as a short-term competitive device that increases a brand's control over limited retail shelf space and, if overall demand for the category can be expanded, also increases the space available to the entire category. Frequent line extensions are often used by major brands to raise the admission price to the category for new branded or private-label competitors and to drain the limited resources of third- and fourth-place brands. Crest and Colgate toothpastes, for example, both available in more than 35 types and package sizes, have increased their market shares in the last decade at the expense of smaller brands that have not been able to keep pace with their new offerings.

Trade Pressure. The proliferation of different retail channels for consumer products, from club stores to hypermarkets, pressures manufacturers to offer broad and varied product lines. While retailers object to the proliferation of marginally differentiated and "me-too" line extensions, trade accounts themselves contribute to stock-keeping unit (SKU) proliferation by demanding either special package sizes to fit their particular marketing strategies (for example, bulk packages or multipacks for low-price club stores) or customized, derivative

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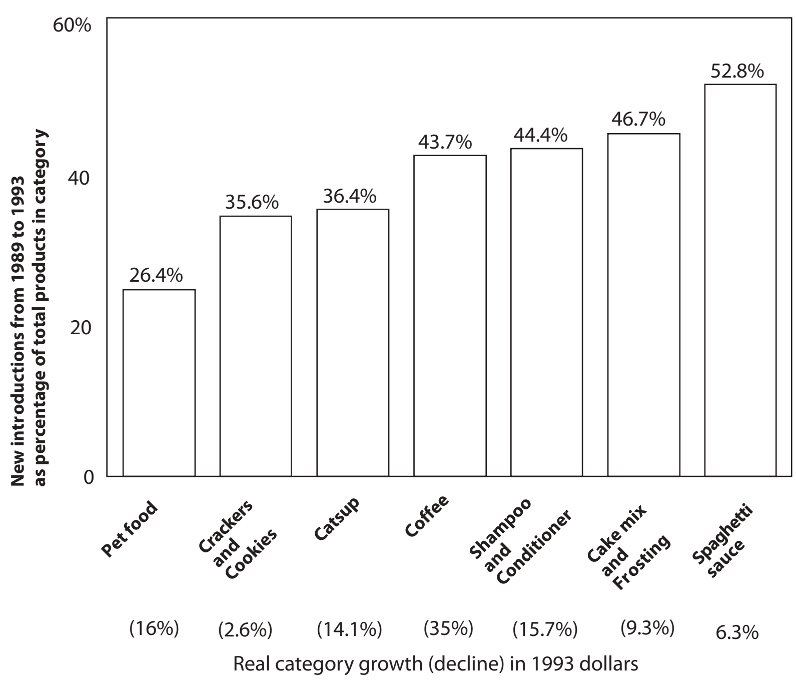
models that impede comparison shopping by consumers. Black & Decker, for example, offers 19 types of irons, in part to enable competing retailers to stock different items from the line.

The Pitfalls of Proliferation

Against this backdrop, it's easy to see why so many managers have been swept into line-extension mania. But, as more managers are discovering, the problems and risks associated with extension proliferation are formidable.

Weaker Line Logic. Managers often extend a line without removing any existing items. As a result, the line may expand to the point of oversegmentation, and the strategic role of each item becomes muddled. Salespeople should be able to explain the commercial logic for each item. If they cannot, retailers turn to their own data—the information collected by checkout scanners—to help them decide which items to stock. Invariably, fewer retailers stock an entire line. As a result, manufacturers lose control of the presentation of their lines at the point of sale, and the chance that a consumer's preferred size or flavor will be out of stock increases.

Line Extensions Don't Increase Demand



Sources: Marketing Intelligence Services; Nielsen North America, SCANTRACK

What's more, a disorganized product line can confuse consumers, motivating those less interested in the category to seek out a simple, all-purpose product, such as All Temperature Cheer in the laundry detergent category.

Lower Brand Loyalty. Some marketers mistakenly believe that loyalty is an attitude instead of understanding that loyalty is the behavior of purchasing the same product repeatedly. In the past 50 years, many of the oldest and strongest brands have had two and three generations of customers buying and using products in the same way. When a company extends its line, it risks disrupting the patterns and habits that underlie brand loyalty and reopening the entire purchase decision.

Although line extensions can help a single brand satisfy a consumer's diverse needs, they can also motivate customers to seek variety and, hence, indirectly encourage brand switching. In the short run, line extensions may increase the market share of the overall brand franchise. But if cannibalization and a shift in marketing support decrease the share held by the lead product, the long-term health of the franchise will be weakened. This is particularly true when line extensions diffuse rather than reinforce a brand's image in the eyes of long-standing consumers without attracting new customers.

Underexploited Ideas. By bringing important new products to market as line extensions, many companies leave money on the table. Some product ideas are big enough to warrant a new brand. The line extension serves the career goals of a manager on an existing brand better than a new brand does, but long-term profits are often sacrificed in favor of short-term risk management.

Stagnant Category Demand. Line extensions rarely expand total category demand. People do not eat or drink more, wash their hair more, or brush their teeth more frequently simply because they have more products from which to choose. In fact, a review of several product categories shows no positive correlation between category growth and line extensions. (See the chart "Line Extensions Don't Increase Demand.") If anything, there is an inverse correlation as marketers try in vain to reinvigorate declining categories and protect their shelf space through insignificant line extensions.

Most managers will extend a line before they will invest the time or assume the career risk to launch a new brand.

Poorer Trade Relations. On average, the number of consumer-packaged-goods SKUs grew 16% each year from 1985 to 1992, while retail shelf space expanded by only 1.5% each year. Retailers cannot provide more shelf space to a category simply because there are more products within it. They have responded to the flood by rationing their shelf space, stocking slow-moving items only when promoted by their manufacturers, and charging manufacturers slotting fees to obtain shelf space for new items and failure fees for items that do not meet target sales within two or three months. As manufacturers' credibility has declined, retailers have allocated more shelf space to their own private-label products. Competition among manufacturers for the limited slots still available escalates overall promotion expenditures and shifts margin to the increasingly powerful retailers.

More Competitor Opportunities. Share gains from line extensions are typically short-lived. New products can be matched quickly by competitors. What's more, line-extension proliferation reduces the retailer's average turnover rate and profit per SKU. This can expose market leaders to brands that do not attempt to match all the leaders' line extensions but instead offer product lines concentrated on the most popular line extensions. As a result, on a per-SKU basis, brands such as SmithKline Beecham's Aquafresh toothpaste can deliver a higher direct product profit to the retailer than brands with larger shares and more SKUs.

Increased Costs. Companies expect and plan for a number of costs associated with a line extension, such as market research, product and packaging development, and the product launch. The brand group may also expect certain increases in administrative costs: planning the promotion calendar takes more time when an extension is added to the line, as does deciding on the advertising allocations between the core brand and its extensions. But managers may not foresee the following pitfalls:

• Fragmentation of the overall marketing effort and dilution of the brand image.

• Increased production complexity resulting from shorter production runs and more frequent line changeovers. (These are somewhat mitigated by the ability to customize products toward the end of an otherwise standardized production process with flexible manufacturing systems.)

• More errors in forecasting demand and increased logistics complexity, resulting in increased remnants and larger buffer inventories to avoid stockouts.

• Increased supplier costs due to rush orders and the inability to buy the most economic quantities of raw materials.

• Distraction of the research and development group from new product development.

The unit costs for multi-item lines can be 25% to 45% higher than the theoretical cost of producing only the most popular item in the line. (See the chart "The Cost of Variety.") The inability of most line extensions to increase demand in a category makes it hard for companies to recover the extra costs through increases in volume. And even if a line extension can command a higher unit price, the expanded gross margin is usually insufficient to recover such dramatic incremental unit costs.

The costs of line-extension proliferation remain hidden for several reasons. First, traditional cost-accounting systems allocate overheads to items in proportion to their sales. These systems, which are common even among companies pursuing a low-cost-producer strategy, overburden the high sellers and undercharge the slow movers. A detailed cost-allocation study of one line found that only 15% of the items accounted for all the brand's profits. That means that 85% of the items in the line offered little or no return to justify their full costs.

Second, during the 1980s, marketers were able to raise prices to cushion the cost of line extensions. A review of 12 packaged-goods companies shows that price increases in excess of raw-material-cost increases contributed 10.4 additional percentage points to gross margins between 1980 and 1990, but 8.6 points were absorbed by increased selling, general, and administrative (SG&A) costs. Now that low inflation and the recent recession have restricted marketers' ability to raise prices, margins will be more clearly squeezed by new line extensions.

Third, line extensions are usually added one at a time. As a result, managers rarely consider the costs of complexity, even though adding several individual extensions may change the cost structure of the entire line.

Once a company's senior managers take the time to examine the downside of aggressive line extension, rationalizing the product line is a fairly straightforward process. Consider the case of a leading U.S. snack foods company, which we will call Snackco. For several years, Snackco extended its line at a dizzying pace. More recently, the company has discovered that a carefully focused line increases both profits and sales.

Snackco's Fall and Rise

In the late 1980s, Snackco was active in leadership markets, that is, markets the company dominated, and competitive markets, in which Snackco was at parity or weaker than its main competitor. Over time, Snackco's product line had proliferated: between 1987 and 1989, the company had increased its new offerings by 20%. During that period, however, overall sales remained flat.

Alarmed by the data, Snackco's president and marketing vice president commissioned a study to determine why the company's line-extension strategy wasn't working. The study revealed that the line extensions actually reduced sales and market share to some extent by crowding out the most popular items to make room for the new products.

In competitive markets, where shelf space was most constrained, the problem was especially acute. Random store checks revealed that the most popular items were out of stock between 5% and 50% of the time. The research showed that up to 40% of Snackco's customers deferred purchases or bought competitors' products if their favorite Snackco product was unavailable, while the remainder chose from the Snackco selections still in stock. It also projected that by recovering half the volume lost from customers who deferred purchases or switched brands, Snackco could increase its sales volume by as much as 10%.

The figures prompted Snackco's senior managers to develop a new product-line strategy. First, the company used consumer tracking panels to classify products by both household purchases and usage frequency. Then Snackco divided its product line into four categories. (See the chart "Focus on Popular Products.")

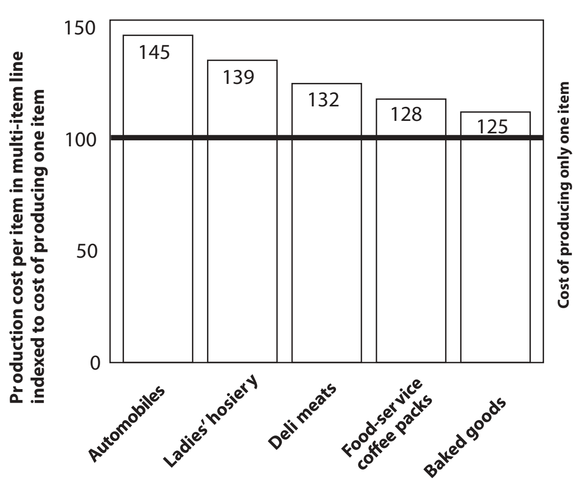
Core products were determined to be those used by more than one-third of consumers and bought more than twice a year by each consuming household. This group of products accounted for 20% of the Snackco line and 70% of the line's sales volume. Snackco managers decided to adjust manufacturing and delivery schedules to ensure that these products were always in stock in both leadership and competitive markets.

Niche products were those that were bought frequently, but only by small subsegments of consumers, often concentrated in one or more geographical markets. This group accounted for 10% of the line and 10% of sales volume. Like core products, niche products were important to the households buying them. Snackco management decided to maintain them in stores where they had sufficient sales velocity but to drop them in other markets to make room for more core products.

Seasonal and holiday products were bought by more than one-third of the households but only once a year. Consumers often bought these products on impulse in addition to their core and niche selections. Items in this group represented 5% of the product line and 10% of sales volume. Management decided to continue selling these items in both leadership and competitive markets and obtain special displays during active selling periods.

Filler products accounted for the remaining 65% of the product-line items but only 10% of the sales volume. These were also purchased on impulse but had a much lower appeal than the seasonal products. When Snackco managers analyzed the hidden costs of each line extension, they found that filler items were the least profitable, even though their raw contribution margins were often higher. As a result,

The Cost of Variety

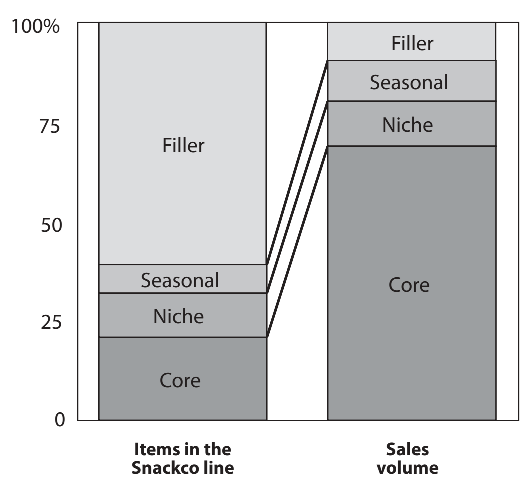


the managers decided to cut the number of filler products in the Snackco line to open up more shelf space for its most popular products. These cuts would be greatest in competitive markets, where Snackco would focus on building share for its core products. In leadership markets, Snackco would selectively retain filler products to defend its leadership position and block shelf space.

Snackco's managers believed that the new strategy was on target, but they also knew that without the support of the sales force, any efforts to implement the plan would fail. So, backed by Snackco's president, one of the sales regions undertook a four-month test to determine the impact of refocusing core products versus continuing line extensions. Not only did market share increase during the test, but sales-force compensation also increased because of the faster turnover of the more popular items in the line, which were given additional shelf space at the expense of the slower-moving items.

The test results generated positive word of mouth throughout the sales organization and earned the approval Snackco managers needed. The new product-line strategy was launched nationwide the following year. As added insurance, the company invested a considerable sum to train the sales force to use handheld computers that tracked individual item movement by store, thereby providing continuous evidence that the new product-line concept was succeeding.

Focus on Popular Products



What's more, the product-line changes were accompanied by a change in advertising strategy. Snackco shifted from an umbrella advertising approach for the whole line to a strategy that focused on its flagship products. Advertisements for these products emphasized the Snackco brand and thereby promoted the brand's line extensions. Over the past two years, Snackco has made significant gains in market share and volume, which in turn have generated even higher margins.

An Action Agenda

Like Snackco, some companies have begun to scrutinize—and rationalize—their product-line strategies. In 1992, for example, Procter & Gamble announced that it would eliminate 15% to 25% of its slower-moving SKUs over 18 months. This move represented a major turnaround from 1989 to 1990, when, over a 20-month period, the company introduced 90 new items, not one of which carried a new brand name. The reason? P&G computed the negative impact of slow movers on manufacturing and logistics costs. The company was also reacting to retailers' threats to drop slow-moving P&G SKUs. As a result of the new strategy, P&G can now close less productive plants, reduce marketing-management overhead, concentrate advertising resources on its strongest brands, and open up shelf space for genuinely new products.

Chrysler is also realizing the advantages of a more focused product line. In the late 1980s, Chrysler offered in theory over one million configurations of its cars through optional extras, even though 70% of consumers bought their cars straight off dealer lots. A look at Japanese competitors suggested an alternative approach. By offering "fully loaded" cars with far fewer options, Japanese automakers enhance manufacturing efficiency, ensure better availability and faster delivery of special orders, and reduce the risk of consumer confusion and disappointment. Chrysler is now offering fewer options on each model in a much more consumer-focused product line.

Both organizations took control of their product lines in their own fashion. But a few general rules can be drawn from their experiences. Following are eight directives that can help marketing managers improve their product-line strategies.

Improve cost accounting. Study, in detail, *Traditional accounting systems can hide the costs of line-extension proliferation.*

the absolute and incremental costs associated with the production and distribution of each SKU from the beginning to the end of the value chain. Since each SKU's costs will vary according to the volume and timing of demand, reappraise the profitability of each SKU annually or more often in the case of fashion-driven or high-technology products subject to volatile demand patterns. In companies with several hundred SKUs, focus computerized tracking systems on those items that either fall outside the bounds of acceptable profitability or are decreasing in profitability. In addition, compare the incremental sales and costs associated with adding a new SKU with the lost sales and cost savings of not doing so.

Allocate resources to winners. Sometimes budget allocations undersupport new, up-and-coming SKUs and oversupport long-established SKUs whose appeal may be weakening. As a result, managers fail to maximize marginal products. On other occasions, new line extensions that appeal only to light users may be allocated resources at the expense of core items in the franchise. Using an accurate activity-based cost-accounting system combined with an annual zero-based appraisal of each SKU will ensure a focused product line that optimizes the company's use of manufacturing capacity, advertising and promotion dollars, sales-force time, and available retail space.

Research consumer behavior. Make an effort to learn how consumers perceive and use each SKU. Core items often have a long-standing appeal to loyal heavy users. Other items generally reinforce and expand usage among existing customers. A company may need a third set of SKUs to attract new customers or to persuade multibrand users to buy from the same line more often. By carefully analyzing scanner panel data, managers can identify which SKUs in a product line substitute for or complement the core products. They can also use the data to explore price elasticities and how demand for one SKU decreases if the relative prices of other SKUs decline.

It is also critical to look at brand loyalty as a long-term behavior. Tracking panels can help companies understand their customers' habits and patterns in using their products. Then, companies can be sure to build and reinforce loyalty, as opposed to disrupting it, when they introduce a new line extension.

Apply the line logic test. Every salesperson should be able to state in one sentence the strategic role that a given SKU plays in the product line. Likewise, the consumer should be able to understand quickly which SKU fits his or her needs. Mary Kay Cosmetics limits its product line to around 225 SKUs to ensure that its beauty consultants, many of whom work part-time, can explain each one clearly; no item is added unless the company removes an existing SKU from the market. By contrast, the Avon product line has 1,500 SKUs, so the company runs special promotions to focus its door-to-door salespeople on certain items.

Coordinate marketing across the line. A complex product line can become more comprehensible to salespeople, trade partners, and customers if other elements of the marketing mix are coordinated. Consider pricing, for example. Adopting a standard pricing policy for all SKUs, or at least grouping SKUs into price bands, is often preferable—albeit at a potential cost in lost margin—to pricing each SKU separately. Consumers and retailers find consistent pricing across a product line clearer and more convincing. It also makes billing easier. Color coding standard-sized packages is another way to help consumers discriminate quickly among SKUs or SKU subcategories.

Work with channel partners. Set up multifunctional teams to screen new product ideas and arrange in-store testing with leading trade customers in order to research, in advance, the sales and cost effects of adding new SKUs to a line. Armed with the test results, distributors can avoid the opportunity costs of stocking inventory and allocating shelf space to slow-moving SKUs that they will have to remove later on. Manufacturer-trade relations will improve as a result.

Expect product-line turnover. Foster a climate in which product-line deletions are not only accepted but also encouraged. Unfortunately, in many companies, removing an SKU is harder than introducing a new one. This is true for a variety of reasons: managers may lack procedures to appraise each SKU's profitability; they may lack confidence in the potential of new items to add incremental sales; they may believe that an SKU should not be deleted as long as some customers still buy it; they may consider it important to be a full-line supplier; they may believe that implementing product-line changes is harder and more ex-

When Snackco managers realized that filler products were the least profitable items in the line, they cut the number of fillers to open up shelf space for more popular products.

pensive than changing the other elements of the marketing mix; and they may be lulled by the ease with which promotional allowances can be used to buy shelf space and thereby cover up for a weak SKU.

Manage deletions. Once unprofitable items are identified, determine whether these items can be restored to profitability quickly and easily. Will a simple design change or a harvest strategy of raising prices and reducing marketing support do the trick? What about restricting distribution to regions or channels where the item is in heavy demand, or consolidating production of slow-moving items in a single plant designed to produce short runs of multiple products? Can costs be reduced by subcontracting production to small copackers?

If none of those approaches restores profitability, develop a deletion plan that addresses customers' needs while managing costs. For example, customers who are loyal to an item being deleted should be directed toward a substitute product. To help this process, offer a coupon that discounts both the item being deleted and the substitute. In some cases, managers may continue direct-mail delivery of an item after it is withdrawn from retail channels while customers are switched to remaining items in the line.

The costs of deleting an item include raw-material disposal, work in process, and inventories that may have to be marked down to current distributors or moved through nontraditional channels, such as warehouse clubs. The deletion plan should address how to use resources, including manufacturing capacity, freed up by the deletion. In some cases, it may make sense to launch a line extension as an existing item is removed.

• • •

The era of unrestrained line extensions is over. Improved cost-accounting systems permit manufacturers and distributors to track more accurately the comparative profitability of SKUs and the incremental costs of complexity associated with extending a product line. Increasingly powerful distributors are emphasizing "category management" and seeking to develop closer relationships with suppliers willing to organize their product lines to maximize trade profitability as well as their own. Meanwhile, consumers balk at the vast array of choices and the lack of apparent logic in many manufacturers' product lines.

Managers who focus their product lines instead of continually extending them can expand margins and market share. A controlled approach aligns products and distribution systems with customer needs, helps ensure repeat purchases, and creates stronger margins that can be reinvested in true customer value.

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Extend Profits, Not Product Lines

Further Reading

ARTICLES

Creating New Market Space
by W. Chan Kim and Renée A. Mauborgne
Harvard Business Review
July 2004
Product no. 726X

To extend profits further, you must go beyond smart product-line strategy for existing markets to create entirely new markets. New markets fuel demand for your products—because you're the only one who offers them. How to create new markets? Provide offerings that give customers fresh combinations of value. Sony's Walkman, for example, blended the great acoustics and "cool" image of boom boxes with the low prices and convenient size and weight of transistor radios. The company grabbed market share from both boom-box and radio makers—and attracted new customer groups, such as joggers and commuters. Another strategy is to redefine your product—as Borders Books & Music did. The company sells "the pleasure of reading" by offering coffee bars, wide aisles, and comfy armchairs inviting people to linger.

Profit Pools: A Fresh Look at Strategy
by Orit Gadiesh and James L. Gilbert
Harvard Business Review
May 1998
Product no. 98305

To extend your profits, you need to understand where profits are concentrated in your industry, not just in your organization. Look beyond rivals' revenues to see the shape of your industry's profit pool—the total profits earned at all points along the industry's value chain. The pool is likely deeper in some segments of the value chain than in others, and in some customer groups, product categories, and geographic markets. Moreover, patterns of profit concentration differ from those of revenue concentration in a particular industry. By understanding the shape of your industry's profit pool, you can develop savvy strategies for enhancing your own profits. For example, U-Haul boosted its profitability by identifying new sources of profit in the consumer-truck-rental industry based on its analysis of the industry's profit pool.

Harvard Business Review OnPoint

3rd article from the collection:
Make Sure *All* Your Products Are Profitable

Innovation Versus Complexity

What Is Too Much of a Good Thing?

by Mark Gottfredson and Keith Aspinall

Included with this full-text *Harvard Business Review* article:

Product 222X

Harvard Business Review OnPoint

Innovation Versus Complexity

What Is Too Much of a Good Thing?

The Idea in Brief

Offering innovative products helps you protect market share and repel rivals' attacks. But innovation can also hurt your profitability. How? It spawns complexity throughout your operations: Employees must adjust workflows to accommodate new product configurations. Error rates creep up. Inventories expand. Managing all this complexity is costly—and shrinks your margins.

A smarter alternative? Identify your company's **innovation fulcrum**—the number of offerings that would optimize both revenues *and* profits. Ask, "What would my company look like if it made and sold just one product?" Then add variety back into your business, product by product: Gauge customer interest and incremental revenues—and estimate the new costs that would come with heightened complexity. The point where costs start outweighing revenues is your innovation fulcrum.

For example, custom truck builder Navistar found that most consumers would opt for a generic model if Navistar could deliver it cheaply, quickly, and reliably. It introduced a modular design—and realized a 25% assembly savings. The few customers who still wanted customized configurations went to Navistar's competitors—who picked up the complexity and costs of providing that customization.

By identifying your innovation fulcrum, you gear your operations to provide precisely the right degree of product variety and operational complexity—all while cutting costs and fattening your margins.

The Idea in Practice

To identify and maintain your innovation fulcrum:

SET YOUR ZERO-COMPLEXITY BASELINE

How would your company operate if it offered just one product or service? The following practices can help you answer this question:

- **Identify an "average" version of your basic offering**—avoiding stripped-down versions *and* overly elaborate models.
- **Find a smaller competitor operating with a more basic set of offerings.** Analyze this rival's operations and financials, and estimate what your costs and revenues would be if you minimized your product set.
- **Look outside your immediate industry for insights.** The Royal Bank of Canada, considering offering a simplified set of services to low-income urban neighborhoods, examined the operations and results of local Money Marts, which provided simple check-cashing services to the bank's targeted neighborhoods.

ADD VARIETY

Using detailed market research and customer analysis, mentally add product and service options your customers will value—item by item. With each added element, trace the potential impact through your value chain.

▶ Example:
To decide whether to add a fresh-baked corn-dusted sandwich bun to its offerings, Burger King gauged the impact on four critical stakeholders: 1) **Consumers** ranked the bun high on freshness, taste, and appearance; thus greater sales seemed likely. 2) **Fresh-bread suppliers** could deliver the special buns alongside standard buns on their current delivery routes. Drivers' average order would increase, making shipments more cost-effective. 3) **Restaurants** could easily manage inventory, since the buns wouldn't require costly frozen storage. 4) **Franchisees** would benefit from higher unit sales and lower unit costs resulting from simpler logistics. Burger King's conclusion? The corn-dusted bun would prove a winning addition.

STEM "COMPLEXITY CREEP"

Getting rid of complexity is only half the battle. The other half is *keeping* it out. Consider these practices:

- **Raise the bar for adding new products.** If you formerly required managers to show a 15% return before introducing a new SKU, up the number to 25%—which probably reflects added complexity costs more accurately.
- **Postpone complexity.** Design products that don't get customized until the last step in assembly or distribution. You'll reduce complexity by enabling manufacturers to source materials and components from anywhere and assemble products close to the point of sale. Home Depot, for example, designs and installs custom kitchens by combining affordable stock items from varied manufacturers.

To get at the roots of profit-destroying complexity, companies need to identify their innovation fulcrum, the point at which the level of product innovation maximizes both revenues and profits.

Innovation Versus Complexity

What Is Too Much of a Good Thing?

by Mark Gottfredson and Keith Aspinall

Walk into the In-N-Out Burger restaurant on Fisherman's Wharf in San Francisco, and one of the first things that may strike you is the number four. Four colors: red, white, yellow, and gray; four cash registers with four friendly faces behind them; and just four items on the menu. You can buy burgers, fries, shakes, and sodas. All the ingredients are delivered fresh to the store, where they're prepared in the open kitchen behind the cashiers. You'll see a few folks eating at the restaurant's tables or tucking into their food outdoors on patio benches, but most customers come in with a handful of cash—no credit or debit cards, thank you—and head back out with their meals.

Four is In-N-Out Burger's innovation fulcrum—the point at which the number of products strikes the right balance between customer satisfaction and operating complexity. Four means simple purchasing, simple production, and simple service. And, it turns out, in a world where fast-food restaurants are forever adding formats and menu items, simple means profitable growth. With its chain of about 200 restaurants throughout California, Arizona, and Nevada, the family-owned company expanded its sales by 9.2%, to $308 million, in 2003, a rate just about double the fast-food standard. Analysts estimate In-N-Out's margins at 20%, again supersized for the industry.

So where's your company's innovation fulcrum? What's the number of product or service offerings that would optimize both your revenues and your profits? If you're like most managers, you're probably scratching your head right now. You don't have a clear idea of where that point lies. All you know—or at least strongly suspect—is that it's considerably lower than where you are today.

The fact is, companies have strong incentives to be overly innovative in new-product development. Introducing distinctive offerings is often the easiest way to compete for shelf space, protect market share, or repel a rival's attack. Moreover, the press abounds with dramatic stories of bold innovators that revive brands or product categories. Those tales grab managerial and investor attention, encouraging companies to focus even more insistently on product development. But the pursuit of innovation can be taken too far. As a company increases the pace of innovation, its profitability often begins to stagnate or even erode. The reason can be summed up in one word: complexity. The continual launch of new products and line extensions adds complexity throughout a company's operations, and, as the costs of managing that complexity multiply, margins shrink.

Managers aren't blind to the problem. Nearly 70% admit that excessive complexity is raising their costs and hindering their profit growth, according to a 2005 Bain survey of more than 900 global executives. What managers often miss is the true source of the problem—the way complexity begins in the product line and then spreads outward through every facet of a company's operations. As a result, the typical corporate response to complexity—launching a Six Sigma or other lean-operations program—often falls short. Such efforts may reduce complexity in one obvious area, but they don't address or root out complexity hidden elsewhere in the value chain. Profits continue to stagnate or fall.

In working with scores of companies since the 1980s, we've studied how complexity infects a company's entire value chain and identified the most common culprits for its spread: bad economic data, overoptimistic sales expectations, and entrenched managerial assumptions. Based on our research, we've developed a comprehensive approach to simplifying a business, centered on a company's innovation fulcrum. By finding the right balance between complexity and innovation—the way In-N-Out Burger has—companies can reduce costs by as much as 35% and lift revenues up to 40%. For many businesses, the innovation fulcrum becomes a turning point toward higher profits and greater sales.

Why Lean Is Not Enough

The usual antidotes to complexity miss their mark because they treat the problem on the factory floor rather than at the source: in the product line. Consider the case of a large, sophisticated high-tech manufacturer, long frustrated by its inability to reduce its inventory of parts and components. The company uses cutting-edge lean-manufacturing techniques to streamline production processes, and its labor force works at world-class productivity rates and routinely hits Six Sigma quality targets. But its inventory-turn rate, the number of times a year the company goes through its entire inventory, remains stuck at seven, a far cry from its goal of 12. Spurred by management's desire to fulfill customer needs and maximize sales, the company has steadily expanded its product line to the point that it now encompasses thousands of SKUs. To make all those products, the company must stock about 400,000 parts from hundreds of suppliers. Given the unpredictable variations in demand, particularly for less popular products, the manufacturer is forced to maintain extensive safety stocks in order to avoid having to shut down the plant while awaiting the delivery of a particular part. Because the product line's size drives inventory requirements, the turn rate lies beyond the reach of lean-manufacturing programs.

This company's problem is not unusual. It's natural for businesses to add products to keep customers happy. Smart marketers have no trouble justifying each addition as a means of adding or protecting revenues. But as more products are added, the costs of the resulting complexity begin to outweigh the revenues, and profits start falling. From that point on, every new offering—however attractive in isolation—just thins margins further. The more aggressively the company innovates in product development, the weaker its results become. (It's not just manufacturers that suffer from profit-eroding complexity. It affects service firms and knowledge companies as well. See the sidebar "The High Price of Service Complexity.")

What makes the problem particularly damaging is that it tends to be invisible to management. Look at what happened when one automaker started offering tinted windshields as an option. On the surface, the move looked like a clear winner. The company's marketers calculated that nearly 40% of customers would buy the option for $120, while the supplier would charge just $8 per unit. Moreover, installing tinted glass rather than clear glass seemed to add no labor costs on the assembly line. With new revenue far outstripping direct costs, adding the new option seemed to guarantee a quick profit boost.

But it didn't turn out that way. Offering

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tinted windshields, in combination with many other options, led to a whole range of higher costs that never showed up in the company's analysis. On the factory floor, the automaker had to adjust its work flows, add new quality-control tests, and even change the routes of its forklifts—all of which increased production costs. Purchasing and material-handling costs went up to accommodate the added part. Assembly-line errors crept up as proliferating options made workers' jobs less predictable. The tinted windshields added complexity to the company's operating and accounting software, which already produced millions of option codes to account for often-minor variations in assembly. Because the systems could no longer "control" for every option, orders now came to the factory floor in random patterns—for example, three cars in a row might require tinted windshields, followed by five that didn't. Workers' walk and reach time increased because they had to double-check order sheets to determine which windshield to install. The increased customization also caused unexpected peaks in demand, leading to dips in quality as workers rushed to finish tasks. Forecasting became more complex, resulting in cars with options packages no one wanted on dealers' hands. Perhaps most pernicious, when a dealer discounted a car to move it off the lot, the forecasting system would see that sale as true marketplace demand, triggering inaccurate forecasts of orders that were likely to come. All of this led to a ratcheting up of inventories to avoid possible stockouts. The "clear winner" ended up losing the company money, though management didn't make the connection at the time.

Traditional financial systems are simply unable to take into account the link between product proliferation and complexity costs because the costs end up embedded in the very way companies do business. Systems introduced to help manufacturing and other functions cope with the added complexity are usually categorized as fixed costs and thus don't show up on variable margin analyses. That's why so many companies try to solve what really are product problems by tweaking their operations—and end up baffled by the lack of results.

What Customers Want

To meet the complexity challenge, you have to begin at the source: with the way your company views customers and their needs. In most cases, managers overestimate the value buyers place on having many choices. Deeply entrenched in management thinking, that mistaken assumption sets the stage for product proliferation. But some companies have begun to challenge that belief. They have launched efforts to determine how much product or service choice customers really want and then gear their operations to efficiently provide that degree of complexity—and no more. These organizations are finding, in other words, their innovation fulcrums. (For an important caveat, see the sidebar "You Can Be Too Simple, Too.")

In 2003, the global food company H.J. Heinz decided to take on its complexity issues. The company launched a Remove the Clutter initiative aimed at "aggressively attacking complexity on many levels," as the company's annual report put it. The effort focused in particular on Heinz's product line, which, over the years, had ballooned to more than 30,000 SKUs as a result of mergers and acquisitions and a focus on creating local brands and products around the globe. As the company analyzed the portfolio, it discovered that many products actually had little appeal to customers. For example, of its three flavored ketchup variations—Hot & Spicy, Mesquite, and Zesty Garlic—only Hot & Spicy had attracted a loyal

The High Price of Service Complexity

The downsides of product complexity for manufacturers have been documented in many studies. But manufacturers don't suffer alone. In fact, in service and knowledge businesses, the continual introduction of new, information-rich offerings can have even more destructive consequences. It can leave virtually every employee struggling to make sense of a complex service portfolio, undermining both productivity and customer responsiveness.

One telecommunications company, for example, has used the power of information technology to slice and dice its service set into ever more finely differentiated options. The firm hoped it would boost revenues by more precisely fulfilling the needs of every imaginable buyer. But offering so many options has had the opposite effect. The company's customer-service reps are now forced to sort through more than a thousand promotion codes while they're talking to a potential customer. Most of the promotions offer distinct levels of discounts and product benefits. Making sense of them all is an overwhelming task. The result? Sales agents give slow and often inaccurate answers to inquiries—and customers grow frustrated and head toward a competitor.

clientele and was generating meaningful sales. By the end of 2004, Heinz had discontinued its least profitable SKUs, trimming the total to about 20,000. The cuts reduced manufacturing, packaging, raw materials, and procurement costs while unclogging store shelves to make room for its profitable products. The initiative helped add a full percentage point to the company's gross margin.

Similarly, Starbucks decided a few years ago to streamline its artisan approach to making drinks by automating and standardizing certain elements of the latte manufacturing process. Today, Starbucks still has a very complex product line on the surface—customers can customize their lattes by size, type of milk, temperature, and flavor additives—but all the variations are based on a standard platform. The process change made very little difference to customers: Their desire for a "custom" product continued to be satisfied even as Starbucks' speed of service increased significantly.

Navistar International, the industrial equipment manufacturer, has also found its innovation fulcrum. In the truck industry, manufacturers typically offer customers pages of options for customizing their vehicles, leading to innumerable build permutations and hidden complexity across the value chain. Navistar challenged the widely held assumption that consumers want a custom-built product, and, in the mid-1990s, introduced a companywide strategy to focus its assembly plants and streamline product lines.

A key piece of this strategy was Navistar's Diamond Spec program, which created a simpler and quicker ordering process for one class of truck while reducing manufacturing complexity. Customers now chose from 16 preengineered modules instead of thousands of individual components. Not long after its launch, Diamond Spec accounted for 80% of dealer orders for that class of truck. The shortened ordering process from days to hours and the guaranteed improvements in quality and performance resulted in consumers placing 120% more orders during the pilot than initially forecast.

Clearly, when organizations prune their offerings to better fit the needs of customers, they do more than cut costs; they often boost sales as well. In many cases, in fact, the revenue gains are even greater than the cost savings. Consider Chrysler's California Velocity Program, launched in the late 1980s. For certain car lines, the carmaker identified the 200 top-selling configurations out of an initial list of about 5,000. The company then used detailed market analysis to suggest to each dealer which four to six of those 200 configurations would be the hottest sellers in its local area. The dealers would then focus on stocking those particular configurations on their lots. This was critical because the months-long process of special ordering a car caused 92% of all customers to buy directly off the lot. If a configuration near what the customer wanted was not on the lot, the dealer was likely to lose the sale. Chrysler tested the initiative in California, using the rest of the United States as a control. After just a year, the automaker found that average dealer sales in California were 20% higher relative to the control dealerships, and the margins of the California dealers were significantly better as well. By more tightly tailoring their offerings to customer needs, dealers sold more cars more quickly, while avoiding the discounting traditionally required to move "turkeys" off the lot. Fewer choices meant happier customers and higher sales. Chrysler then rolled out the program nationally, and over the next four years the company increased overall revenues by 40%.

The Model T Analysis

How exactly can you find your own company's innovation fulcrum? We've distilled the experiences of successful companies into a two-step process that we call a Model T analysis.

You Can Be Too Simple, Too

Complexity is not always bad. In many cases, maintaining some degree of complexity is essential to effective operations and astute risk management. The high-tech hardware manufacturing sector, for example, suffers frequent supply disruptions for a number of reasons. These include cyclical capacity shortages (notorious in memory chips), technology schedule slippages (for new CPUs, for example), and regional crises affecting suppliers (such as earthquakes). If alternatives are not available, the financial implications can be devastating. Getting too simple in your inventory may prevent you from having enough $2 capacitors on hand, which stops production of a critical video card, which, in turn, holds up production of a high-end workstation. Supply disruptions have cost high-tech OEMs hundreds of millions of dollars in profits. In situations like these, it makes sense to maintain redundant supply sources—even though doing so adds considerable complexity to the supply chain.

First, you determine your zero-complexity baseline, the process cost of selling an absolute minimum number of standard products. What, in other words, would be your company's equivalent of Henry Ford's one-size-fits-all 1920s Model T? For Starbucks, the Model T might be a medium-size cup of brewed coffee. For a bank, it might be a basic checking account. Next, you add variety back into the business system, product by product, and carefully forecast the resulting impact on customer sales as well as the cost impact across the value chain. When the analysis shows the costs beginning to overwhelm the added revenues, you've found your innovation fulcrum. (For an overview of the process, see the exhibit "Finding Your Model T.")

Setting the baseline. What would your company look like if it made and sold only a single product or service? Answering that question is important for two reasons. First, virtually every complexity reduction exercise we have seen that does not do this has failed to break through organizational resistance. Typically, marketing wants more product diversity, while operations wants less. Starting from a purely theoretical baseline allows long-opposed sides to suspend their defensiveness and "not invented here" mentality. Participants—especially senior executives from marketing and operations who will lead the initiative—can begin thinking about change without asking for commitments.

Second, a baseline changes the lens through which managers view the business. It enables them to see through a company's existing complexity—a difficult challenge given the way financial reports hide process costs. Only by stripping away all the products, options, and configurations do managers get a clear sense of the extent of the complexity and its costs. In working with one company, for example, we determined that its products could be configured in 10 billion different ways. A much more profitable competitor, in contrast, offered 3,000 possible permutations. Our client's managers were unable to comprehend the operational implications of going from 10 billion to 3,000 configurations. When we asked one of them what would change under such a scenario, he shook his head and replied, "We only build 1,000 units a day, so I can't think of anything that would change." But when we asked the managers to imagine producing just one standard product, their eyes lit up. They immediately realized how they'd be able to streamline processes, strip away entire IT systems, and simplify transaction processing. One manager was particularly struck by how making only one product would change the forecasting process for parts. Each night he took an inventory of all 46,000 parts in the plant to ensure he had what he needed to manufacture any of the 10 billion permutations that customers could, theoretically, request. "If we don't have enough in stock or arriving by truck in time to meet the next day's schedule, then we have parts flown in. On average, 15 planes a day fly in to the plant from our suppliers around the country." He then pointed out, "All those costs would disappear instantaneously."

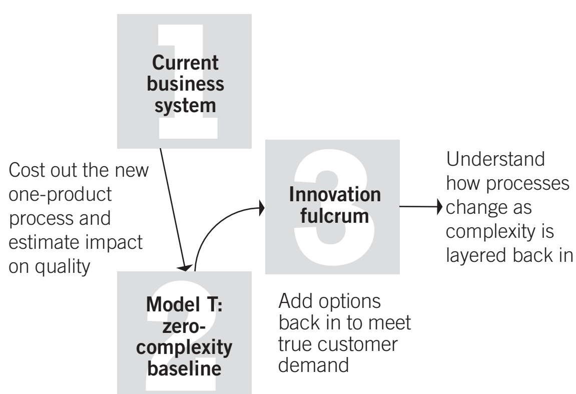
Choosing the right Model T can be tricky. Most companies should look for an average version of their basic offering, avoiding stripped-down versions on the one hand and elaborate models on the other. That way, variations in the cost of product features won't distort the analysis. Big companies operating in many markets may find it difficult to isolate a single "typical" offering. In such cases, manag-

Finding Your Model T

What would be your company's equivalent of Henry Ford's one-size-fits-all Model T? To figure that out, begin by considering one of your highest volume products or SKUs. This will usually give you the clearest snapshot of the overall business systems—from marketing and manufacturing operations to relationships with suppliers and retailers—that may need to change. Make sure to choose a configuration that is average in terms of content, cost, and cycle time through the system.

In some instances, a company may have more than one Model T. This is often the case when products:

- are targeted at entirely different customer segments;
- have separate manufacturing processes;
- rely on platforms that are so different that the supply chains cannot be compared.



ers should look for a proxy—a smaller competitor that's operating with a much more basic set of offerings. A national or international fast-food chain, for instance, might use In-N-Out Burger as a proxy for its own baseline. By analyzing the smaller, simpler company's operations and financials, the larger enterprise could estimate what its own costs and revenues would be if it minimized its product set.

It's also sometimes possible to look outside your immediate industry to gain insight into your baseline. For example, the Royal Bank of Canada examined the operations and results of local Money Marts, simple check-cashing operations that were thriving in low-income urban neighborhoods, as a model for its baseline set of services.

Adding variety. Having established the cost of producing a baseline offering, you now need to add back in the options that will be valued by customers. The simplest possible offering, after all, will rarely be the optimal offering. Henry Ford found that out when he continued to churn out basic Model Ts while Chevrolet was introducing new models. Ford soon saw his company's market share and profits erode. By expanding the product line, item by item, a company can forecast the costs

Gauging the Complexity of Your Business

The Roman poet Ovid surmised, "The cause is hidden; the effect is visible to all." Such is certainly the case with complexity today. It doesn't appear on balance sheets or on quarterly reports, but its impact can be conspicuous. We tend to see the most complexity in businesses that build products to stock, have a sophisticated supply chain or assembly environment, or sell products through retail stores. To determine the complexity of your business, begin by looking at your number of offerings, sales volume, modularity, and where complexity shows up in your value chain. Below, we offer a simple set of diagnostic questions for manufacturers, retailers, and service businesses. If you answer "yes" to any of these questions, your business is likely overly complex.

	Manufacturing	Retail	Services
Number of offerings	Is your total number of SKUs or possible product configurations greater than 1,000 or more than 50% greater than that of your lowest-complexity competitor?	Do your fastest-turning SKUs sell more than twice as frequently as your slowest? Are your inventory turns more than 10% slower than your lowest-complexity competitor?	Does your sales force have trouble understanding and communicating your most profitable offerings to core customers because of the complexity of the offerings?
Sales volume	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?
Modularity	Have any of your competitors created modular or bundled products?	Is your approach to customer segmentation aimed at "offerings for many to attract the many" rather than "delighting the few to attract the many"?	Can you bundle offerings to meet specific segment needs?
Where complexity shows up	Does complexity show up early in the process, such as in engineering (creating change orders) or in assembly (creating unpredictability in the operation)?	Do you find that you frequently have to discount to sell slow-moving inventory?	Do you have excessive error rates, low close rates, or frequent customer abandonment due to customer confusion?

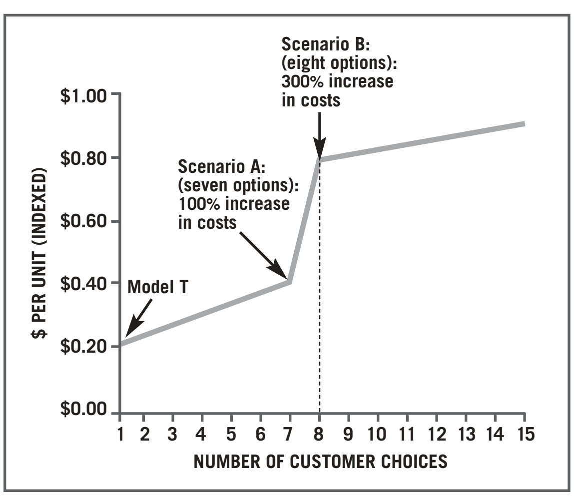
that greater complexity will add as well as the incremental revenues that will be gained. Using detailed market research and customer analysis, managers can determine, in concrete terms, the level of choice customers demand. The company adds complexity back in only when it knows that a segment of customers will want the additional SKUs and be willing to pay more than the full systems costs the added complexity entails. (See the exhibit “Adding Variety, Carefully.”)

The secret to this second step is to take a painstakingly methodical approach, adding only a single element of complexity at a time and then tracing the effect through the value chain. To return to the fast-food business, consider how Burger King recently used a combination of five measures to identify how adding a product or ingredient, in this case a premium sandwich bun, could benefit its overall business. Using consumer, operational, supply chain, financial, and strategic criteria to evaluate its bread carriers and selection of buns, Burger King saw that several of its current products were relatively complex and costly to handle, requiring special manufacturing and distribution. For instance, sourdough breads and baguettes were baked, frozen, and then shipped, refrigerated, through distribution centers. But using the same evaluation criteria, Burger King identified one attractive new product, the 5-inch corn-dusted bun, which could go through Burger King’s core hamburger-bun supply chain.

Burger King discovered that adding corn-dusted buns would benefit four critical stakeholders. First, consumers ranked the fresh-baked buns high on key dimensions of quality, including freshness, taste, and appearance. Second, the fresh-bread suppliers could deliver corn-dusted buns alongside standard buns on their current delivery routes. This would increase the drivers’ average order and drop sizes, making each restaurant shipment more cost-effective. Third, corn-dusted buns would be simpler for restaurants, since suppliers would handle the inventory management, and the buns would not require costly frozen storage. Finally, the franchisees would benefit as the better products drove higher unit sales, and the simpler logistics resulted in lower unit costs. By analyzing the impact of the additional variety across all stakeholder groups, Burger King could see that the corn-dusted bun would be a winning addition.

Adding Variety, Carefully

When an industrial supplier saw that offering one additional option caused a huge leap in costs, it determined that its innovation fulcrum, the complexity level at which it would maximize both profits and revenues, rested at seven options.



Keeping It Simple

As we’ve seen, complexity is insidious. Getting rid of it is only half the challenge. The other half is keeping it out. Once a company is balanced on its innovation fulcrum, it must be vigilant in preventing the proliferation of products and in reassessing its optimal fulcrum point as, for example, customer needs and production technologies evolve. Four practices can help stem complexity creep:

Raise the hurdle rate. Requiring a higher rate of return on new products not only makes it more difficult for marketers to arbitrarily add SKUs, it also increases discipline in the innovation process. Consider one consumer apparel company that markets a diverse portfolio of iconic, global brands as well as some other national brands. While new styles from the classic brands tended to remain attractive to customers for years on end, innovative styles from the lesser known brands had short shelf lives—and were becoming a drag on profits. To solve the problem, the company started by reducing complexity, dropping thousands of SKUs and million of dollars in unprofitable sales, thereby increasing gross margins. Then, to keep a lid on complexity, the apparel maker introduced significantly higher

Nearly 70% of managers admit that excessive complexity is raising their costs and hindering their profit growth.

hurdle rates for new-product introductions of its nonclassic styles, making it harder for the company to take on less profitable products. Instead of requiring a 15% return to introduce a new SKU, which had been the traditional standard, it upped the required return to 25%, a figure that more accurately reflected the added complexity costs. Finally, to ensure accountability in the innovation process, executives assigned a "product owner" to every new style. Employees in this role monitor new-product performance and quickly cull items before they become unprofitable.

Postpone complexity. The further down the value chain you introduce complexity, the less it costs you. The logic of postponement applies across a wide range of consumer durable and industrial goods sectors. Consider big-box retailing where consumers like product choices but don't want to wait for them and won't pay anything extra. Manufacturers accommodate this by designing products that are customized at the last step in the assembly or distribution process. Manufacturers can source materials and components from anywhere in the world, while assembling products just in time for customers close to the point of sale. In the kitchen department at Home Depot, for example, the retailer and manufacturers work together to provide a variety of customer options. MasterBrand Cabinets and Masco both provide entry-level cabinets that can be integrated with standard Wilsonart countertops. These manufacturers also provide higher-end custom products designed to be configured by in-store designers and then shipped directly to the job. (This approach addresses one of the biggest fears that Home Depot customers have—whether or not the company can actually deliver on its promise of an error-free custom design and installation.) In this way, Home Depot preserves economies of scale while giving customers the flexibility they want.

Institutionalize simplicity in decision making. The goal here is to manage complexity before it is hardwired into plants and costs. To do this, executives need to determine who has responsibility for making innovation decisions across the value chain. Take the example of one food company, where marketers had developed novel forms of packaging for a popular snack. From a marketing standpoint, the approach made sense. Consumer research had long supported the notion that grabbing attention in the store aisle was a prerequisite to growing sales in the impulse-driven snack market. Yet plant personnel knew that marketing's unchecked enthusiasm for innovative packaging was hurting efficiency across the supply chain.

To resolve the conflict, the company's executives entered the fray. First, they purged the excess complexity by consolidating products around a few standard kinds of packaging—an approach that reduced material costs and boosted the top line significantly. But the executives also developed a new decision-making process to ensure that complexity wouldn't sneak back in. They assigned formal roles in marketing and manufacturing that defined who would recommend, provide input, and approve new product and packaging concepts. Now brand managers no longer make decisions unilaterally but work through a series of checkpoints with manufacturing and sourcing managers.

Stay balanced. A company's innovation fulcrum can shift over time. As it becomes more experienced in production and distribution, for instance, a company can often drive down the costs of complexity, easing the penalty for adding a new product. Or, the needs of its customers may shift, either reducing or increasing the value they place on having more choices. A company needs to revisit its portfolio routinely to ensure it is optimizing profits. Here, the Japanese automakers provide an exemplary model. By the 1970s, the Big Three U.S. automakers had been competing for years on the breadth of the choices they offered consumers. The resulting complexity had driven up their costs, leaving them vulnerable to attack. Toyota and Honda made the most of this opening by striking the right balance between customer choice and operating complexity. Rather than offering customers millions of build combinations—as the U.S. automakers were doing—Honda, for instance, offered 32 build combinations with four colors.

The results were lower costs, higher-quality cars, and significant gains in market share. Even though the U.S. makers have followed their rivals' lead in becoming simpler—through reducing the number of basic platforms on which they build their various models—Toyota and Honda have been able to maintain their cost leadership by continually

Many companies try to solve product problems by tweaking their operations—and end up baffled by the lack of results.

resetting their fulcrums. Responding to the demands of customers, for example, Honda has redesigned its engines to reduce fuel consumption and emissions. At the same time, the company has also streamlined the manufacture of its engine family, making it possible for the first time to produce different engine models on the same production line.

What's the right balance? It's a question Henry Ford should have asked before he began to see his competitors' colorful vehicles everywhere. He did, eventually, introduce the Model A, replete with multiple hues and features that won back some customer loyalty. But the lesson remains: Companies that strike the proper balance between innovation and complexity create more efficient operations and more profitable relationships with customers. They also pave the way to a competitive advantage within their industry, often by forcing onto competitors the high costs associated with customization. The need for this equilibrium may not be as obvious as it was in Ford's day, but it's just as critical.

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Innovation Versus Complexity

What Is Too Much of a Good Thing?

Further Reading

ARTICLES

Measure for Measure Toward Greater Profit

by Robin Cooper, Robert S. Kaplan, and W. Bruce Chew
Harvard Business Review OnPoint Collection
April 2000
Product no. 3561

Gottfredson and Aspinall emphasize the importance of fully understanding the cost of developing and marketing new offerings. The articles in this *Harvard Business Review* OnPoint collection provide **tools for accurately assessing the costs of innovation**. In "Measure Costs Right: Make the Right Decisions," Robin Cooper and Robert S. Kaplan advocate using activity-based costing (ABC) to assess how your use of resources changes when product lines proliferate. In "Profit Priorities from Activity-Based Costing," they explain how to use ABC to develop profit opportunities for different product lines, customer groups, and distribution channels. In "No-Nonsense Guide to Measuring Productivity," W. Bruce Chew provides additional guidelines for looking beyond the traditional costs associated with innovation (which often overemphasize direct labor) to estimate other costs.

Leveraged Growth: Expanding Sales Without Sacrificing Profits

by John Hagel III
Harvard Business Review
October 2002
Product no. 2012

Hagel describes another way to mitigate the complexity that comes with product expansion: Leverage *other* companies' assets. For example, **orchestrate other firms' activities**. Hong Kong–based trading company Li & Fung does this by owning none of the facilities that produce the finished goods it supplies to European garment retailers and designers. Instead, it has privileged access to 7,500 companies worldwide with specialized production and distribution capabilities. It uses whichever companies best make each part of whatever goods its customers demand. Results? It breaks into new markets quickly, responds flexibly to technology shifts—and delivers +30% returns on equity in an industry notorious for thin margins. Another strategy is to **aggregate related companies' resources**. Investment giant Charles Schwab aggregates specialized third-party content—Dow Jones news stories, Standard & Poor's company reports—to help its customers make investment decisions. Schwab attracts more customers—at lower costs than if it owned the underlying content.

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4th article from the collection:
Make Sure *All* Your Products Are Profitable

Defeating Feature Fatigue

by Roland T. Rust, Debora Viana Thompson, and Rebecca W. Hamilton

Included with this full-text *Harvard Business Review* article:

Product 3439

Defeating Feature Fatigue

The Idea in Brief

Are you adding features upon features to your products to boost revenues? If so, you're probably endangering your brands—and your customer relationships. Why? Consumers *think* they want feature-loaded offerings when they're shopping. But once they start *using* their purchase, they suffer **feature fatigue**: they become overwhelmed by the product's complexity and annoyed by features they realize they don't want or need. Their response? Return the item, take their business elsewhere, and complain about your company to other consumers.

How to avoid inflicting feature fatigue on your customers? Start by taking stock of the complexity your company has built into its products. Assess the toll that complexity is taking on your customers and your profitability. Design products with just enough features to stimulate sales *and* ensure they're easy to use once customers bring them home. Instead of offering complex products that try to do everything for all customers, provide a variety of simpler products, each tailored to a particular customer segment.

Combat feature fatigue, and you score valuable results: brisk sales, delighted customers, strong brands—and enduring profitability.

The Idea in Practice

To fight feature fatigue:

Assess Complexity's Costs
Take a hard look at the level of complexity in your company's offerings and the difficulties it creates for you and your customers.

▶ Example:
Mercedes-Benz had packed its cars with electronic features, causing important parts to malfunction and making testing the electronics system more expensive. Many features were also unnecessary or annoying to drivers. For instance, the ability to store one's preferred seat position in the car key frustrated drivers who borrowed their spouse's key, which triggered the spouse's preferred settings, and could no longer access their *own* seat position.

Balance Initial Sales Against Ease of Use
Use analytical tools to identify the optimal number of features for your products. Steer away from the extremes: too few features to capture initial sales or too many features to ensure ease of use. Aim instead for a middle ground that balances the sales benefits of adding features against the customer equity costs of feature fatigue.

▶ Example:
After considering the trade-off between initial sales of its vehicles and ease of use, Mercedes-Benz decided to remove more than 600 electronic functions from its cars.

Build Simpler Products
Offer a wider assortment of simpler products targeted to narrower customer segments.

▶ Example:
Electronics giant Koninklijke Philips Electronics' new brand promise is "sense and simplicity." The company created a Simplicity Advisory Board—a think tank comprising designers, health care specialists, and technology experts—to develop new products that are easy to use and that improve the quality of people's lives. An electronic garage door opener elicited praise from one customer: "It works perfectly: I just push a big, obvious button on a simple, single-function control. I only needed to use it once before I understood how it worked."

Help Consumers Decide
Offering more narrowly targeted products makes consumers' decisions harder, forcing them to think about which features they actually need. Help them by providing recommendation agents who interview them about their requirements. And offer extended product trials.

Design Products that Do One Thing Very Well
Products that perform their central task admirably capture their owners' hearts. Apple's iPod, the astoundingly successful, single-purpose personal music player, performs so well and so simply that sales soared.

Use Prototypes and Product-In-Use Research
When market researchers ask consumers to evaluate products they haven't actually used, consumers base their assessments only on product features, without considering whether a product is easy to use. To help consumers give usability its proper weight, design research that lets them experiment with product prototypes.

It's not just a dual-wake-up alarm clock, it's a CD player and an aromatherapy machine, too! But wait, there's more—it has a shortwave transmitter and a Dictaphone function for recording late-night brainstorms. And that's not all…

Defeating Feature Fatigue

by Roland T. Rust, Debora Viana Thompson, and Rebecca W. Hamilton

A mouse pad is a simple thing. Essentially an oversized coaster, it keeps the incessant scooting of a computer mouse from destroying a desktop's finish. Beyond that, the most it might do is amuse, soothe, or advertise with the artwork imprinted on it. Or so we thought. Enter the mouse pad/clock/calculator/FM radio. Recently, one of us was the reluctant recipient of this innovation in office equipment. Thoughtfully, it featured a pair of earphones. Less thoughtfully, it did not include the two batteries required to operate it. A glance at the two closely printed pages of instructions indicated the learning curve involved. Our new mouse pad soon found its true calling: gathering dust in a bottom drawer.

It's a story that's playing out in homes and offices around the world. Consumers can now purchase a single product that functions as a cell phone, game console, calculator, text messaging device, wireless Internet connection, PDA, digital camera, MP3 player, and GPS. The BMW 745's dashboard alone has more than 700 features. Appliance maker LG Electronics sells a refrigerator with a TV in the door. (The ad copy on one retailer's Web site sums up the value proposition: "Why integrate a TV into an LG refrigerator? Why not?") People in the software business like to refer to this phenomenon as "feature bloat"; other terms are "featuritis" and "feature creep." It's a kind of arms race to escalate the functionality of formerly single-minded devices.

The problem is that tacking features on to products makes them harder to use. Even when the extra bells and whistles don't add wholly different realms of functionality (such as phones that are also cameras), the complexity they introduce to the task at hand can be mind-boggling. The Bosch Benvenuto B30 espresso and coffee machine, for instance, doesn't stop at delivering a demitasse; its digital screen asks the user to select from 12 drink options and to make myriad decisions about energy-saving modes, timer programming, and water hardness settings. Every additional feature, to quote usability expert Jakob Nielsen, is "one more thing to learn, one more thing to possibly misunderstand, and one more thing to search through when looking for the thing you want." It makes sense intuitively that an overload of features detracts from a product's usability; it's also been proven over and over again in research. Recently, for example, the research and design firm Usable Products Company compared cell phones and found that it took twice as long (about 12 minutes, instead of six) to download and install a ring tone on Cingular's Nokia 6620 as it did on Sprint's Samsung SPH-A680. For a ring-tone-addicted public, this is a serious shortfall. And it has everything to do with Nokia's inclusion of ringer profiles, picture messaging, MP4 playback, and RealPlayer—all features absent from the Samsung model.

Now, don't get us wrong. Ringer profiles are definitely cool. The ability to have calls from your brother announced by the tune to "He ain't heavy…" or to hear the refrain from Chris Rea's 1978 hit "Fool (If You Think It's Over)" and know your divorce lawyer is on the line constitutes a breakthrough in ironic living. For the customer who wants all the additional functions, and is willing to learn how to use them, an extra six minutes here and there may be bearable. But the reality is that most customers don't use anything close to the full functionality of a highly complex product. For them, more functions translate to lower value in use.

Our recent research, funded by the Marketing Science Institute, has focused on the trade-off companies must face between making their products more capable—that is, increasing the number of useful functions they can perform—and making them more usable. Our findings demonstrate that managers struggling to achieve the right balance are forced to choose between maximizing initial sales and maximizing long-term customer satisfaction. For reasons we will explain, the usual market-research techniques don't provide a solution to this dilemma. Managers committed to winning repeat business and growing the lifetime value of their customers need a new model.

It Slices, It Dices

Why do manufacturers persist in making monstrosities of their products? One reason is to serve their own efficiency goals. To begin with, adding features costs next to nothing. As faster and faster chips offer ever-increasing memory capacity—at a lower cost—engineers can't resist the temptation to equip existing electronic components with more functions. Of course, they are not looking at the whole equation, which includes the intangible costs of reduced usability.

It's also cheaper to produce feature-rich products that can satisfy the needs of heterogeneous consumers than to produce targeted products with fewer features. For instance, a company that designed a calculator with financial analysis functions might add a set of functions useful to biochemists, aiming to hit two birds with one stone.

Often, companies don't nip the efflorescence of features in the bud because engineers and early adopters don't see the problem. Consider one lead user's opinion, posted on a consumer feedback site:

> I was stuck between the T610 and the P800. Having gotten used to the A830 for about four months, I preferred to have a phone with similar features (MP3 player, Bluetooth, Triband, organizer, etc.) so in the end, I went with my instincts and went for this beauty—P800. And boy, am I glad I did. All I can say to those who gave the P800 bad reviews is "bad luck." But then again, I would think that for some of you, the P800 just simply had too many features for you to handle…

As hinted in this individual's posting, his was a minority view. But it's clear that he was a highly knowledgeable and opinionated reviewer who had considerable experience with the product and its competitors. Whose favor do you think product engineers court more: lead users like this one or the easily flummoxed masses?

Even marketers, who are trained and paid to understand the majority of consumers, are led to believe that more is better by economic theory and standard market-research techniques—both of which use models that predict that increasing the number of positively valued features makes products more appealing. At least since Kelvin Lancaster's work in the early 1970s, economists have recognized that consumers choose not so much between goods as between their characteristics; economic theory models consumers' preferences using an additive utility function to link product attributes to consumer demand. In other words, each positively valued attribute is assumed to increase the net utility to the consumer, no

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matter how many other attributes already exist. Similarly, market research techniques such as conjoint analysis and discrete choice analysis view products as bundles of attributes and estimate part-worths for each attribute. According to these models' predictions, each positively valued feature will increase a product's market share relative to products without that feature. At the very least, marketers see every new feature their company dreams up as a point of differentiation (however fleeting) and every feature competitors dream up as a necessary parity point.

A friend of ours uses a phrase to describe the products that grow out of such thinking, things like combination telescope/microscopes and wristwatch/metronome/tuners. She calls them "the answer to the question that nobody asked." But that's not entirely true. So far, we've been reviewing the supply-side explanations for the proliferation of product features, but there's also a demand side to consider.

It Engages, It Enrages

We conducted three studies to gain a better understanding of why consumers keep buying products they will live to curse. (See the sidebar "You Made Your Remote-Control-Adjustable, Dual-Firmness Mattress, Convertible Bunk and Trundle Bed—Now Lie in It" for a closer look at our research. Additional details can be found in our November 2005 article in the *Journal of Marketing Research,* "Feature Fatigue: When Product Capabilities Become Too Much of a Good Thing.") First, we wanted to know how additional features affect consumers' perceptions of a product and their purchase decisions. Do they perceive that a product with more features truly has more capabilities? Do they suspect it will be harder to use? Second, we wondered what weight consumers place on usability relative to capability when given the opportunity to customize a product for their own use. Third, we wanted to find out if consumers judge the overall utility of a product differently once they've used it. If capability counts for more than usability in "expected utility" (evaluated before use), does the same equation hold for "experienced utility" (evaluated after use)? Or does usability become more important?

Our first study proved that consumers know full well what they're getting into. In fact, people have a good understanding of the double-edged sword that features present. They expect features, reasonably, to add valuable capabilities to a product. They also expect them to make the product more complicated and difficult to use. In our laboratory, just as in life, people balance the upside and the downside before making a decision.

When it's time to choose, however, capability wins. In a simulated store setting, we presented our study participants, undergraduate students, with models of digital audio and video players that differed only in the number of features. The findings were clear: As the number of features grew, perceived capability increased and perceived usability decreased. And overwhelmingly, participants thought the high-feature model offered the highest overall utility. It was the one they would choose to own.

Clearly, capability has a stronger effect on expected utility than usability does. And, as our research shows, this isn't true only—or even particularly—for highly knowledgeable customers. We distinguished between participants who were experts in using digital audio and video players and those who were novices. There was a difference in how the two groups perceived the products' usability; not surprisingly, novices expected a bigger usability penalty from additional features than experts did. But both groups preferred the high-feature model in the end.

Our second study pursued that finding. Plenty of anecdotal evidence suggests that consumers do not use all the features of the products they buy. We wondered if, given the op-

You Made Your Remote-Control-Adjustable, Dual-Firmness Mattress, Convertible Bunk and Trundle Bed—Now Lie in It

We ran three studies to examine consumers' intuitions about how adding features to products would affect the products' capability (what they could do) and their usability (how easy it was to use the products effectively). In particular, we wanted to determine whether participants would weigh those two factors differently before and after they'd used the products.

In all three studies, we presented our participants, undergraduate students, with two kinds of devices they were already familiar with and valued: digital audio players and digital video players. This ensured their high level of involvement in the tasks we gave them and their ability to make reasonable judgments about the products' capability and usability.

You Made Your Remote-Control-Adjustable, Dual-Firmness Mattress, Convertible Bunk and Trundle Bed—Now Lie in It, continued

What Appeals to Consumers

We simulated an in-store experience and presented participants with three models of either a digital video player or audio player. Each model differed only in its number of features (seven, 14, or 21).

We asked the 130 participants (50.8% females, average age 20.5 years) to perform the following tasks:

- Rate their expertise with digital video and audio players in general.
- View the user interface and the list of features for each of our three models.
- Rate their perceptions of each model's capability and usability. Regarding capability, we asked whether the products were likely to perform poorly or well, offer few or many advantages, and add little or much value. We measured usability by asking participants to agree or disagree with eight statements, such as, "Learning to use this product will be easy for me," "Interacting with this product will not require a lot of mental effort," and "It will be easy to get this product to do what I want it to do."
- Provide their overall evaluation of each model's utility according to six measures (bad/good, unlikable/likable, not useful/useful, low/high quality, undesirable/desirable, unfavorable/favorable).
- Choose one of the models, indicating how confident they were about their decision and how difficult it was to make the decision.

Participants who chose more features perceived their products to have more capability but less usability than the products with fewer features. But in the end, most participants (62.3%) chose high-feature models.

Consumers know that products with more features are harder to use, but before they purchase a product they value its capability more than its usability.

What They Choose to Add On

We asked the 141 participants (55.3% females, average age 21.1 years) to perform the following tasks:

- Imagine that they were about to subscribe to and download a new digital audio player or digital video player.
- Choose the features they wanted from a list of 25 features that had been identified as ones that offer positive value.
- Rate their familiarity with each feature and its importance.
- Rate the perceived capability and usability of their customized product.

Of the 25 features, participants chose an average of 19.6 for their customized products—nearly as many as were included in the first study's high-feature product. Approximately half of the participants chose more than 80% of the available features.

The number of features participants selected increased perceived product capability for both products and decreased perceived product usability for one of the products. The connection between adding product features and decreasing usability seems to hold even when the consumer is able to select each feature. And because participants nevertheless chose high-feature instead of low-feature products, it seems clear that, prior to purchase, the desire for capability drives decisions more than the desire for usability.

Even when consumers are allowed to customize a product, they load on the features, worrying little about the learning curve they are setting for themselves.

What Makes Them Happy in the End

We created two working models of the digital video player—one with seven features and one with 21—and allowed some participants (the "after use" group) to use one of the models; they consulted a user's manual and performed a series of four tasks with the product. The other participants (the "before use" group) only considered features on a virtual product.

We then asked the 190 participants (52.1% males, average age 20.5 years) to perform the following tasks:

- Evaluate the product's capability and usability.
- Provide an overall evaluation of the product.
- View the user interface and the list of features for two other models (for instance, those who had used the high-feature model were shown the low- and medium-feature versions) and rate their capability and usability.
- Provide an overall evaluation of each model's utility using the six-item measure in the first study and one item about product satisfaction.
- Choose one of the models, indicating how confident they were about their decision and how difficult it was to make the decision.

Participants' choices of players before and after use suggest a substantial decrease in the share of the high-feature model. The majority (66%) of participants in the before use group chose the high-feature model. But only 44% of the participants in the after use group who had used the high-feature model chose it—even though they had already invested time learning how to use it. Those who used the high-feature model were less confident in their choices and rated the choice as more difficult than those who used the low-feature model.

Once consumers have used a product, their preferences change. Suddenly, usability matters very much.

Before You Add That Next Feature, Do the Math

How many features should a product include to contribute most to the bottom line? A fairly straightforward model, applied to data any company can collect, provides the answer.

First, to simplify matters, let's assume that adding features costs nothing (as is the case with many information-based products, such as software), so that increasing profitability is purely a matter of increasing revenue. In our model, we'll call the incremental revenue created by adding new features R. And, as we discuss in the article, we know that R is actually the net of two perceived effects: a capability bonus (C) and a usability penalty (D). Stated as an equation, $\mathbf{R=C-D}$.

But recall from our research that adding features has a less positive impact on perceived capability after use than before use. The capability value of features, in other words, is not static. So let's distinguish between C_1 and C_2—capability as perceived before and after use. C_1 is one multiple (d) of the features (F) we added, and C_2 is another, lesser, multiple (e) of those same features.

$$C_1=dF$$
$$C_2=eF$$
$$C,d,e>0 \text{ and } d>e$$

Also recall that usability is perceived to decline with the number of features, and this decline appears to accelerate as more features are added. So the total usability penalty consists of the negative effect (a) of the first set of features plus the even greater negative effect (b) of the next set of features:

$$D=aF+bF^2$$
$$a,b>0$$

We can now create the basic equations required to think about long-term profit impact—one for the first period's revenues (R_1) and one for revenues from subsequent periods, which for now we will limit to one subsequent period, R_2.

$$R_1=C_1-D=(d-a)F-bF^2$$
$$R_2=C_2-D=(e-a)F-bF^2$$

But arriving at total revenues, stated at their net present value (R_{tot}), isn't quite as simple as adding R_1 and R_2. There's one more variable we must introduce. In some companies, subsequent purchases matter more to the lifetime value of the typical customer than they do in other companies. One reason for this variability is that some product categories are more conducive to repeat sales than others. (Other reasons include differences in companies' discount rates, the typical duration of customer relationships, and the lengths of planning horizons.) To recognize that variability, we need to add a weighting factor (w) to the second period.

$$R_{tot}=R_1+wR_2$$

We now have all the variables in place to discover how to choose a feature set that will maximize long-term revenues and profits. Put together and stated in the most mathematically efficient form, the equation takes shape as follows:

$$R_{tot}=R_1+wR_2=[(d-a)+w(e-a)]F-(1+w)bF^2$$

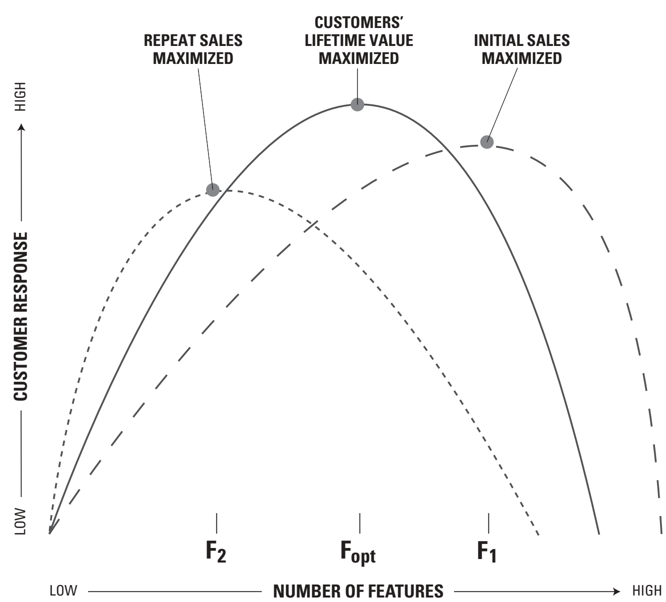
Now, let's say a company is hoping to find the number of features that will initially attract the most customers and will therefore maximize short-term, first-period profits. This amounts to maximizing R_1 with respect to F. It is easily shown that R_1 is maximized when $\mathbf{F_1=(d-a)\div 2b}$. In the chart below, this is the curve that peaks farthest to the right. But if the company is hoping to maximize repeat sales (and hence second-period profits), that means maximizing R_2 with respect to F, leading to the optimal value of $\mathbf{F_2=(e-a)\div 2b}$. This curve peaks farthest to the left in the chart.

There is, however, a middle ground. If the company focuses neither on initial nor on longer-term profits but on maximizing the net present value of the customer's profit stream, which financial analysts would consider optimal, they must maximize R_{tot} with respect to F. The optimal value can be found through the following equation:

$$F_{opt}=[(d-a)+w(e-a)]\div[2b(1+w)]$$

To achieve this happy medium, as we can see in the chart, companies must take care not to include too many features in their products in an attempt to maximize initial sales, or to include too few features, as they might if they focused strictly on maximizing repurchases.

Further implications of the model are noted in our November 2005 *Journal of Marketing Research* article, from which the chart is also adapted. The key point here is that companies can discover the optimal number of features for their products, and that number depends on their goals.



As faster and faster chips offer ever-increasing memory capacity—at a lower cost—engineers can't resist the temptation to equip existing electronic components with more functions.

portunity to customize a product to fit their own interests and needs, consumers would limit the number of features. We presented participants with a list of 25 features and told them to create the digital audio or video player they would prefer to own if the incremental price of features were no object. In theory, this meant that each feature had to pass a simple test in which the capability gain would exceed the usability pain. In fact, the typical customizer was like the proverbial kid in a candy store. Participants saw very little they objected to and piled on the extras, creating products with an average of 19.6 features—virtually the same number included in the high-feature model in our first study. As in that earlier study, we asked participants to evaluate the products they had created in terms of capability and usability, and again, they clearly understood that adding capabilities would increase the usability penalty they'd end up paying. But they also foresaw greater capabilities in the feature-rich products, and that carried the day in their impressions of their products' overall utility.

While the first two studies examined consumers' intuitions before using products about how adding features to them would affect their capability and usability, the third study directly compared consumers' ratings of capability and usability and their overall product evaluations before and after using products.

What came to light in the findings was a significant and interesting shift. Before use, capability mattered more to the participants than usability, but after use, usability drove satisfaction rates. As a result, satisfaction was higher with the simpler version of the product, and in a complete reversal from the earlier studies, the high-feature model was now rejected by most participants.

This, then, is what lies behind the pervasive problem of feature fatigue: The experience of using a product changes the equation underlying consumers' preferences. People initially choose products that do not maximize their long-term satisfaction because different considerations are salient in expected and experienced utility. Put simply, what looks attractive in prospect does not necessarily look good in practice. Consumers often become frustrated and dissatisfied with the very cornucopia of features they originally desired and chose. This explains a recent nationwide survey that found that after buying a high-tech product, 56% of consumers feel overwhelmed by its complexity.

Even experts—people who are highly product literate—don't escape the effects of feature fatigue. In our study, the shift in preferences before and after use occurred just as strongly for experts as for novices. If anything, our studies might understate the truth. First, our sample represented a segment—college students—that tends to be more open to new technology and new features than other segments. Second, our high-feature product had only 21 features, a relatively low number in some product categories. Finally, our studies considered only features that added functionality to the product and were reasonably familiar to the participants. The negative effect of unimportant or highly complex features may be even stronger. To underscore the depth of feeling that featuritis elicits, let us refer you to the World Wide Web, home to highly informed consumer reviews of thousands of complex products. One blogger on topics of product design, Kathy Sierra, expresses her frustration this way:

> My new Subaru-factory-supplied car stereo uses that most evil of designs—modes. With so many features to support, they ran out of controls…so every control does multiple things depending on which mode you're in. None of it is intuitive or natural. Lose the manual and I'm screwed. Ten years ago, if you'd told me I'd one day need a manual to use my car radio, that would have been inconceivable. All I want to do is find a frickin' radio station!

Products That Do Too Much

If you are a manager in a consumer products company, our research presents you with a dilemma. Adding features improves the initial attractiveness of a product but ultimately decreases customers' satisfaction with it. So, what should you do? If you give people what they want, they will suffer for it later, and that has three follow-on effects.

First, many of them will return the product. Recently the Consumer Electronics Association, a U.S. trade association, commissioned a survey on consumers' experiences in a complicated new product realm: home networking. The survey found that 9% of consumers had returned a home networking product (for example, a hub, router, bridge, adapter, or modem) within the previous year. Only 15% of the returns were the result of broken or defective

The first step for many companies may simply be to take stock of the complexity they have built into their products and the toll it is taking on their customers.

products; most of the remaining returns were simply because people couldn't get the equipment to work.

Second, consumers who are dissatisfied with a product after using it will take their business elsewhere in the future. Certainly, it's true that you can't satisfy a customer you've never won in the first place. Many companies may believe 'tis better to have sold and lost than never to have sold at all. But that's a dangerous attitude for any company focused on growing customer equity—the lifetime value of their customers. A company looking for repeat business should hesitate to pit its features against its future.

Finally, frustrated product owners, like the blogger we quoted above, will spread the word of their dissatisfaction. This appears to be the case with BMW, whose 7 Series cars feature the complicated iDrive system, which, as we said, offers about 700 capabilities requiring multifunction displays and multistep operations—even for functions that formerly required the twist of a knob or the flick of a switch. BMW included instruction sheets in the glove compartment because it is almost impossible to give the car to a valet parker without an impromptu lecture. According to industry news reports, sales of the 7 Series in the United States in the first half of 2005 were down about 10% relative to the same period in 2004. Past studies have established the power of positive word of mouth and the much greater prevalence of its negative form—and most of those studies were conducted before the Internet gave every dissatisfied party a global sphere of influence.

In light of these long-term consequences, how should companies today be designing products? It's undeniable that, in a store setting, consumers reach for the product that boasts the most features. But how much of a good thing is too much?

Finding the Happy Medium

To achieve lasting prosperity, companies must find a way to resolve the dilemma we've described. The first step for many companies may simply be to take stock of the complexity they have built into their products and the toll it is taking on their customers. Executives at Mercedes-Benz recently did just that and, as a result, removed more than 600 functions from its cars. In 2004, Stephan Wolfsried, vice president for electrical and electronic systems and chassis unit at DaimlerChrysler's Mercedes Car Group, said that integrating all those functions caused truly important electronic parts to malfunction occasionally and made testing the system more expensive. Moreover, Wolfsried said, the functions were ones that "no one really needed and no one knew how to use." One example he noted was the storage of a driver's personal seat position in the car key. "It was done with good intentions, but if I take my wife's key at some point and can't find my own seat position any more, that tends to be annoying for me instead of comfortable." We suspect that in many companies, simply gaining this kind of heightened awareness of customer impact would help contain feature bloat. Beyond that, we offer five other pieces of advice.

Consider long-term customer equity and not just customers' initial choices. To get the right mix of capability and usability in a product, managers need much more guidance than the general advice that "less is more." On the basis of our results, we developed an analytical model to help managers balance the sales benefits of adding features against the customer equity costs of feature fatigue. The model steers decision makers away from the extremes—too few features to capture initial sales or too many features to ensure ease of use—and toward a middle ground that maximizes the net present value of the typical customer's profit stream. The model also demonstrates that the optimal number of features depends on a company's objectives. (See the sidebar "Before You Add That Next Feature, Do the Math.")

Build simpler products. In general, our results suggest that managers should consider offering a wider assortment of simpler products instead of all-purpose, feature-rich products. Perhaps this is the intent behind electronics giant Koninklijke Philips Electronics' new brand promise: sense and simplicity. The concept is that products should be easy to use and should improve the quality of people's lives. The company apparently wants to take this idea beyond sloganeering: It created a Simplicity Advisory Board, a think tank consisting of designers, health care specialists, and technology experts, to help translate the message into new products. Meanwhile, we like the salute to simplicity offered by Adam Baker, a Web-based commentator:

> I have an electronic garage door opener. It

works perfectly: I just push a big, obvious button on a simple, single-function control, and the garage door opens (or closes, depending on whether it was open or closed to begin with). I only needed to use the device once before I understood how it worked. It doesn't do anything else, and it doesn't have any fancy gimmicks.

Particularly in cases where a company has packed one model with many features to address market heterogeneity, consumer satisfaction might be greatly enhanced by tailoring products with limited sets of capabilities for various segments.

Give consumers decision aids. We've just suggested creating and marketing more narrowly targeted products. Admittedly, this makes the decision process more difficult for consumers, forcing them to think carefully about which features they actually need. Moreover, our empirical results suggest that people will be tempted by products that offer greater capability. To help consumers learn which products best suit their needs, managers should consider designing decision aids, such as recommendation agents that "interview" buyers about their requirements, or offering extended product trials—two techniques that can increase the salience of usability in the purchase decision. For example, the companies that sell digital media players RealPlayer and Winamp offer evaluation versions, which give people the opportunity to fiddle with a working model of the product, sometimes with limited functionality and sometimes with full functionality for a limited time. By decreasing the gap between consumers' preferences during choice and use, such strategies may increase customers' satisfaction and their lifetime value.

Design products that do one thing very well. Perhaps the worst outcome of feature creep is the one captured in a *New Yorker* cartoon that shows a man arriving in a store with a simple question: "Do you have any phones that make phone calls?" Too often, in their eagerness to layer on additional functionality, developers lose sight of the product's basic function—the one thing it must do extremely well. Examples abound of products that have captured their owners' hearts by performing their central task admirably. The phenomenally popular iPod, Apple's personal music player, shows how effectively a company can make sales and satisfy customers with a tightly focused solution. As a new digital product, the iPod could have combined numerous features at extremely low incremental cost. Instead, it aimed to be a single-purpose tool that performed so well and so simply that everyone had to have one.

Use prototypes and product-in-use research. One way or another, managers must correct for the misleading information that many market-research techniques deliver. As noted, our findings call into question the predictive power of attribute-based models for determining the optimal number of features. If companies conduct market research by asking consumers to evaluate products without using them, too much weight will be given to capability, and the result will likely be products with too many features. Instead, designing research that gives consumers an opportunity to use actual products or prototypes may increase the importance of usability so that its relevance in choice approaches its relevance in use.

Only You Can Fight Feature Fatigue

You probably know someone who owns a Swiss Army knife. They are undeniably useful tools; maybe you carry one yourself. But do you know anyone who owns the WorkChamp XL model? Retailing at $188, it bristles with more than 20 special-purpose appendages (although it lacks the 13 different screwdrivers of the CyberTool). Victorinox, the company that makes the knife, hardly expects it to be the top seller. The company's most popular offering, however, is no simple, one-bladed pocketknife. It has more features than a single blade—but not many more. And the utility of that classic multipurpose tool has been the foundation of the company's brand image for decades. Victorinox's experience is in line with our findings: The best way to build customer equity is to design products with just enough features to make the first sale and still be highly usable.

Too many companies today are endangering their brands, and their customer relationships, by adding features upon features to their products. They are increasing product capability at the expense of product usability and failing to strike the optimal balance between those two important considerations. The situation threatens to get worse as the marginal cost of adding features continues to decrease, even approaching zero for information-based products like software.

In an interview with the electronics trade magazine *EE Times,* David Hytha, executive vice president of international terminal management at T-Mobile, had this to say: "We spent billions of euros as an industry on advanced-feature phones…Not only have we not gotten any good money back from our investment, but we've even hurt our investment." What was the problem? Insufficient attention to usability. Hytha went on to admit, "There are so many different features that even able users find it difficult to use the phone." The market, he concluded, "truly is choking on technology."

What happened to T-Mobile's market may well be happening to yours. If you care about making your customers happy and maximizing their value to you over the long term, stop exposing them to feature fatigue.

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Defeating Feature Fatigue

Further Reading

ARTICLES

Usability: The New Dimension of Product Design
by Artemis March
Harvard Business Review
September–October 1994
Product no. 94507

To design products that are easy for consumers to use, look beyond just ergonomics and the look and feel of your offerings. Also consider cognitive concerns—such as how logical and natural the product is to use. And take into account emotional aspects, or how people feel about using the product. For example, Thomson Consumer Electronics' designers ensure that all its entertainment products are engaging, foster a sense of discovery, and eliminate fear. And Northern Telecom defines usability as simplicity, ease of use, and conspicuous consumer value.

Lean Consumption
by James P. Womack and Daniel T. Jones
Harvard Business Review
March 2005
Product no. 9432

The authors provide additional ideas for designing user-friendly offerings. Consider all the steps your customers go through in the process of consuming your product: purchasing, integrating with other products, maintaining, upgrading, and discarding. Identify steps where customers expend time but get no value. Then revamp your operations to eliminate wasted time—and frustration.

For instance, auto dealer GFS prediagnoses vehicle problems by phone and confirms diagnoses when cars arrive. Customers can authorize repair work immediately, avoiding additional phone calls. GFS also schedules arrivals to eliminate queues, and bundles parts and tools into kits delivered to technicians as needed. Customers spend less time waiting; repairs get done faster and more correctly. Car owners *and* GFS win.

Spark Innovation Through Empathic Design
by Dorothy Leonard and Jeffrey F. Rayport
Harvard Business Review
November–December 1997
Product no. 97606

As another strategy for designing easy-to-use products, observe customers using your offerings—in their own environments, during normal, everyday routines. You'll gain access to a host of information (including product usability problems) that's not accessible through other types of observation, such as focus groups and usability laboratories. And by effectively gathering, analyzing, and applying information gleaned from observation, you'll identify real consumer needs and generate ideas for designing successful new offerings that meet those needs.