

Cultivating Smart Complexity

For generations, as consumers seemingly thirsted for exciting new products, manufacturers happily provided more choices, cementing the “more is more” mindset. Now, there is awareness that perhaps we went overboard, as consumers do not reward, and occasionally reject, too many choices and the increased complexity. The need then is to differentiate good complexity from bad— isolate and eliminate the weeds—and cultivate smart complexity that truly wins.

The need to manage complexity is nothing new. For decades, operations managers have urged their CEOs to simplify product lines to cut costs, and marketers have advocated pruning underperforming products from their companies’ portfolios. Yet complexity looms

larger than ever. It is driving up costs in an economy where cutting costs may be essential to survival, and it is strangling consumer demand—1,100 varieties of tomato sauce or 45 types of shampoo are too many for most shoppers to comprehend.



Management Agenda

Have managers forgotten the lessons of complexity management? Or have traditional philosophies, methodologies and tools failed? In our recent work for a global consumer packaged goods company, we tried a new approach to complexity management. The results were gratifying: The company increased margins by 1 to 3 percent. Even more gratifying, however, was that these improvements were not blips, one-time cost reductions that might hamper future growth. Instead they resulted in a sales lift, setting the foundation for ongoing improvements in profitability.

We attribute these results to a new complexity-management philosophy—smart complexity. The approach is based on the idea that innovation in complexity management can go beyond solving company-specific problems or simply tweaking methodologies or accounting techniques. Complexity management can actually shift the way you view your business. Smart complexity challenges the notion that every new product variant drives growth. So instead of, “What do we cut?” the

approach prompts us to ask, “How much do we need in the first place?”

Of course, a change in philosophy is not always easy to implement. When your employees have lived their entire professional lives believing “more is better,” with incentive structures that reward more and business models that crown more as king, it can be a challenge to suggest that more may be, well, too much.

But if it were easy, everybody would have done it already. Smart complexity is a new take on traditional complexity management. Our four-pronged approach will help you get the most from your product portfolio (*see figure 1*).

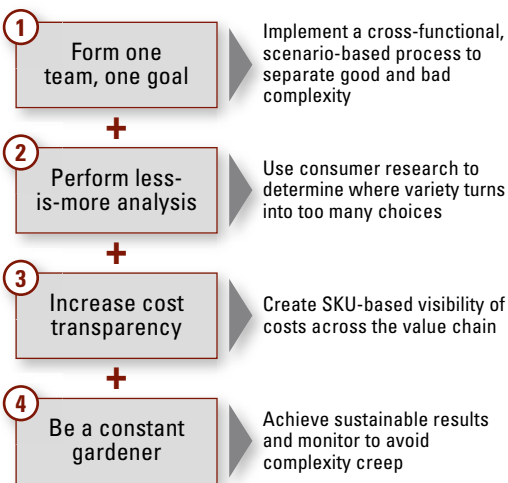
Form One Team, One Goal

When firms try to address complexity, they sometimes find that their internal functions are speaking in two different tongues. For operations—manufacturing, supply chain, raw materials and logistics—increased product variety means increased costs. In 1909, Henry Ford made automobiles affordable by announcing, “Any customer can have a car painted any color that he wants so long as it is black.” Having just one color on the assembly line dramatically reduced Ford’s production costs. Today companies offer their products in a rainbow of colors, frequently modifying their formulas or types of raw materials, and varying their packaging sizes and designs. When operations executives complain to marketing about the resulting complexity, they rarely expect to eliminate it—merely to mitigate its effects.

For marketing, on the other hand, complexity generally refers to the choices offered to consumers, and the revenues those choices produce. This is where the “more is better” philosophy comes in: the notion that the most reliable and perhaps only source of corporate growth and profitability is to increase customer choice.

FIGURE 1

Smart complexity approach



Source: A.T. Kearney

Thus product managers think they must always ask R&D for new innovations, market researchers think they must always find new, unexploited niches, and salespeople believe they must always defend and expand their shelf space through new offerings.

The result is that marketing equates complexity management with stock-keeping unit (SKU) “tail-cutting,” getting rid of slow-selling items in the portfolio. These low-revenue products fall on the tail of an SKU-versus-volume Pareto chart. Some companies are more disciplined or sophisticated about their tail-cutting, but in general, tail-cutting is easy to understand and widely accepted, if not always enjoyed. It’s a little like weeding the garden—a necessary but tedious task that you’re always tempted to postpone.

Traditional tail-cutting has two major drawbacks. It tends to be a one-time event, so within weeks or months, varietal complexity creeps back in and you have to weed your garden again. Also, it doesn’t address the value-chain complexity that’s bedeviling the folks in operations (not surprisingly, since the tail is defined by revenues rather than inputs). Yet if tail-cutting ignores operational complexity, how can it ever achieve overall complexity reduction?

This conundrum highlights one of the reasons complexity is such a big problem. Nobody owns it. If marketing handles complexity management, costs will soar; let operations handle it, and revenues will plummet. Even worse, typically we find that marketing is not even aware of how different complexity drivers add different costs (sometimes even operations has limited

transparency) and which complexity is cheaper to add. Henry Ford faced this, too. In his autobiography, immediately after citing his operations-friendly color policy, Ford wrote, “I cannot say that anyone agreed with me. The selling people could not of course see the advantages that a single model would bring about in production. More than that, they did not particularly

Some product **PORTFOLIOS HAVE REACHED A TIPPING POINT** where consumers are satiated with choices **AND PERHAPS EVEN WISHING FOR SIMPLER TIMES.**

care.”¹ Ford’s genius wasn’t so much making the Model T black, it was his decision to have complexity management owned by the CEO.

Smart complexity initiatives are unified and integrated. Operations and marketing are both sitting at the table, speaking the same language, reviewing the same knowledge base, sharing the same incentives, and making decisions together. Those decisions are fully endorsed by the CEO. The CEO’s job is not as simple as Henry Ford’s appears in retrospect: it’s not that operations should win one or more complexity debates. Rather, the CEO leads a process through which everyone at the table comes to a new understanding of the nuanced relationship between complexity and growth. A scenario-based, cross-functional decision-making process will help reach fact-based

¹ Henry Ford, *My Life and Work*, Chapter 4, Doubleday, Page: 1922.

Management Agenda

conclusions. This approach involves a less-is-more methodology that is more sophisticated than simple SKU tail-cutting.

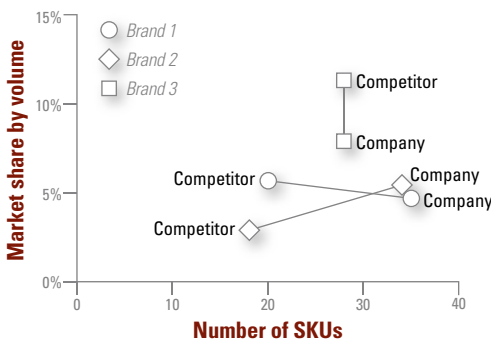
Less-Is-More Analysis

For decades now, increased customer focus and IT innovations have led to more product variety in all industries. Marketers are able to slice-and-dice target markets with ever-more specificity, and ever-more-agile supply chains have (almost) been able to keep up. But today the variety-drives-growth paradigm is being challenged. Years of uncontrolled innovation have resulted in saturation and declining productivity—especially for market leaders. Whereas new markets and new consumers once devoured variety and allowed for easy growth via more SKUs, some product portfolios have reached a tipping point where consumers are satiated with choices and perhaps even wishing for simpler times. Additional variety can become unproductive or even counterproductive. It is critical for companies to identify this tipping point by analyzing the competition, existing market share, and maturity within a product category.

Market data shows that often, contrary to conventional wisdom, there is no correlation between the number of SKUs and market share. Figure 2 shows an example. The chart on the left shows the market shares of various brands for a company and its competitor, as compared to the number of SKUs each has. The competitor has fewer SKUs, but achieves higher (or only marginally lower) market share than the company. Because more SKUs generally mean more complexity and thus higher costs, it does not bode well for the company’s competitive situation. The table on the right shows a productivity score for each SKU, with a lower score indicating fewer SKUs are required to capture each market share point. As you can see, not only is the competitor more productive in five out of eight markets, the trend is even more pronounced in markets where it is the leader. This illustrates the difficulties of competing with low SKU productivity. The situation is only aggravated when instead of raising the productivity of existing SKUs with improved innovation, marketing and distribution support, companies introduce even more SKUs, fueling a vicious downward cycle.

FIGURE 2

Analysis of SKU productivity¹



Category	Select markets	Market leader	# SKUs (per market share point) ²		Ratio of SKUs company: competitor ³ (per market share point)
			Company	Competitor	
Brand 1	Market A	Competitor	8.4	4.1	2.05
	Market B	Company	4.3	4.2	1.02
	Market C	Company	1.9	2.5	0.76
Brand 2	Market B	Competitor	5.5	4.5	1.22
	Market C	Competitor	4.4	3.5	1.26
Brand 3	Market A	Company	2.1	1.2	1.75
	Market B	Competitor	5.6	3.6	1.56
	Market C	Company	2.8	2.9	0.97

Average where competitor is market leader **1.57**

Notes: ¹ SKU = stock-keeping unit
² Productivity score = Number of SKUs (by brand) ÷ market share (by volume)
³ ■ = Company has higher productivity ■ = Competitor has higher productivity ■ = Approximately equal productivity

Source: A.T. Kearney

Such analyses suggest that companies may need to prune their product portfolios radically. If you offer 10 varieties of shampoo, and four contribute 80 percent of your shampoo revenues, obviously you should cut the underperforming six. But what if the remaining four contribute equally to revenue—yet your competitor has just two or three varieties? You’re still in a potentially disadvantaged situation: more complexity than your competitor, higher costs, and thus higher prices or lower margins. So what if you also cut one of the four?

The standard answer is that you can’t cut a successful product because you will lose that product’s fans to the competition. It’s a good answer—sometimes. But there are plenty of situations where the volume will be picked up by other products in your own portfolio. Given the sophistication of today’s consumer market research, these situations shouldn’t be too hard to identify.²

Smart complexity suggests that you go beyond tail-cutting and ask the fundamental question: What do we need? After all, it’s not just weeds that hamper the performance of your garden. Sometimes your best plants are simply too close together, competing with each other for sun, water and nutrients. Maximizing your garden’s performance comes not from over-planting and then eliminating the weakest, but from consciously planning the garden to give each plant its best growing conditions.

This approach is especially valuable in industries such as consumer packaged goods where the proliferation of choice has become counterproductive. When products come in regular, mild, chef’s choice, unscented and premium; low-sodium, low-salt, no-salt and lite; and 6-oz., 10-oz., 12-oz. and 15-oz., at what point does the consumer stop caring?

² For more information, see “Stop Chasing Your SKU Tail” in Executive Agenda vol. IX, No. 1 at www.atkearney.com.

Shopability research suggests that over-choice can indeed be demotivating for consumers. Faced with too many options, shoppers revert to a small set of choices they deem “safe.” Or worse, sometimes they simply walk away, convinced that any choice would make them worse off than none at all. This is the ultimate in bad complexity—when complexity

Focusing on THE EXECUTION OF A LIMITED NUMBER OF PRODUCTS

can prove far more effective in driving growth.

not only raises your costs but also reduces your revenues. And thus in these situations, smart complexity—going beyond SKU tail-cutting to find out where less is more—will not only reduce costs but also drive growth.

Increase Cost Transparency

Now, let’s take a closer look at the costs of complexity. After all, the analysis in figure 2 doesn’t necessarily demonstrate that more complexity is always more expensive. Skeptics may argue that some companies are simply better than others at managing complexity.

We’re sure that’s true. But in a complexity initiative that asks both operations and marketing to change their long-held assumptions about relationships between complexity and growth, all statements need quantitative backup. Without

Management Agenda

data, it's too easy to fall back on emotional reactions to defend a practice because it's what worked in the past. "Decision-makers often overestimate the power of their own intuitions," says Ian Ayres, an econometrician and author. "Tastes change. A system of periodic retesting is a way to ensure that your marketing efforts remain optimized."³ Transparent analysis can clearly demonstrate the benefits of smart complexity.

Traditional cost analyses look at supply-chain total delivered costs—the cost savings achieved by carrying fewer colors and parts, reducing shipping and inventory, and other measures. But another innovation of smart complexity is to look beyond total delivered costs to quantify savings across the organization. Most companies treat non-supply-chain, administrative costs such as R&D, sales, marketing and accounting as fixed, and impervious to complexity. These costs are rarely measured

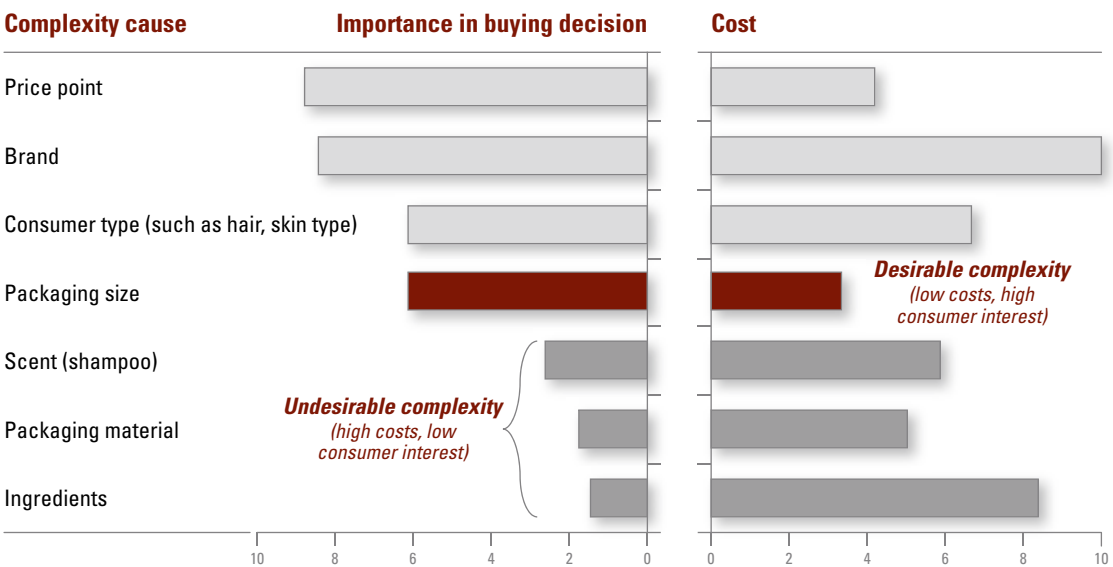
in a complexity-management initiative.

Yet complexity does affect administrative costs. Hypersegmentation, finding benefits for smaller and smaller slices of the market, can fragment efforts across the entire organization, crippling their effectiveness. If marketing has to design artwork for 20 variants of shampoo, it is clearly spending more money than it would with five or 10 variants (or producing poorer artwork). Likewise, reducing the variants reduces the amount of labor required by the sales force, the accountants and other support personnel. If companies focus on the execution of a limited number of products, it can prove far more effective in driving growth via improved marketing and distribution of winning products.

We use an accounting methodology to measure the costs of complexity. The goal is to achieve better visibility along the entire value chain for each complexity driver (see figure 3).

FIGURE 3

Identifying complexity—desirable and undesirable



Note: "Importance in buying decision" is the weight given to a cause measured as a percentage. "Cost" is measured in terms of money required to add a new variant.

Source: A.T. Kearney

³ Ian Ayres, *Super Crunchers: Why Thinking-by-Numbers Is the New Way to Be Smart*. Bantam Dell, 2007: 62.

SKU is one such driver. Others may include color, packaging size, raw material types, boutique collections requiring unique artwork, and additional factors related to the specific product and market. The complexity management team can use these cost measurements to make better decisions about which products to prune.

For example, armed with data on customer buying behaviors and costs, you can compare them to see if complexity is succeeding. If consumers respond well to a variety of packaging sizes, and the different-sized packages have a relatively low cost impact on operations, that's smart complexity. Conversely, if scent has a relatively low impact on revenues but a big impact on costs—that's the most productive place to prune.

Be a Constant Gardener

Finally, rather than a one-time effort followed by inevitable backsliding, complexity management needs to be ongoing. It's not enough to weed the garden occasionally, you must be a constant gardener—and start by laying down a weed mat to prevent weeds from growing to the surface.

With the “weed mat” approach, every new potential product variant must jump over a complexity hurdle to make it to market. For every new product, you ask: What are the costs of the product across the organization? Will the product drive new consumer buying behaviors, or will it merely cannibalize existing sales?

More restrictive rules in the product-development process allow a company to account for its consumers more systematically and to avoid complexity creep. Because the weed-mat approach prevents the appearance of weeds, it eases the process of eliminating them in the future. Sure, a few weeds may sneak through, and in a few years the mat may degrade and require replacement, but such efforts require

far less work than a regular weeding of the entire garden.

Not that a one-time intervention makes weeding unnecessary. Complexity management combines an intensive intervention, leading to a newly designed product portfolio, paired with continual follow-up to prune the portfolio based on that design.

However, the smart complexity approach also leads to some follow-up activities that go far beyond the weeding metaphor. The new philosophy also affects how your organizational structure, incentives and staff capabilities influence the product portfolio.

Under the more-is-better philosophy, for example, a product manager's incentives are based on sales. With smart complexity, reward is based on a more holistic picture. How can incentives be shifted to subtract sales cannibalized from other lines? How about from other brands owned by the same company? How can those incentives be shifted to account for changes in category shopability as a whole?

For many large, traditionally successful companies with strong R&D departments, a host of companywide incentives depend on the innovation pipeline. Salespeople's rewards—both internal incentives and external incentives such as more shelf space—have centered on pushing new products. Likewise, marketers have centered on building new campaigns for new products. The assumption that growth comes from innovation has permeated the organization, and in many cases has become a self-fulfilling prophecy.

Yet that assumption has led to stultifying complexity. Complexity governance has to eliminate these counterproductive conditions. In the new paradigm, marketers and salespeople (and even external partners such as retailers) are trained to propel product growth without changing the product. Why can't existing products

Management Agenda

get the new advertising campaigns, the arguments for increased shelf space, the internal attention and incentives? Such approaches can actually be both cheaper to implement and less risky than overreliance on the product innovation pipeline. But they don't happen overnight. In this dimension, as in others, the smart complexity approach moves complexity management to a new organizational philosophy—one that promises far greater potential, but requires firm leadership commitment.

Simpler Is Better


There's no bad time to undertake a complexity-reduction initiative. It's always good to reduce costs, refocus attention and maximize resources, and especially good when the effort can simultaneously set the stage for future growth. Yet there can be particularly good times to undertake such an initiative. Right now is one of those times, due in large part to the economic crisis.

Reducing complexity will generally reduce inventory, which frees up cash. Reducing operational expenditures can also free up cash, and provide flexibility to respond to potential changes in consumer demand brought on by uncertain times. In an economy where some companies are cutting across the board, cutting complexity in ways that enhance revenues will

put you several steps ahead of the competition.

But the current moment is not just about finance. It's also about the ways people are choosing to live their lives. Concern has been building for a long time (especially among young people) about global warming and sustainability. Now that the crisis is forcing a reckoning, broader consumer sentiment may be leaning toward simplification. Consumers, not just marketers, have noticed the unhappiness they feel when faced with too many choices. Regardless of whether or not they have to tighten their belts, their future buying patterns may be influenced by a desire not to invest so much of their time and resources in choosing among options. They will respond with gratitude to companies offering a simpler portfolio.

Smarter Is Better Yet

Complexity was seen before as good because it drove sales. Amid an economic crisis, it's tempting to see complexity as bad because it drives costs. But complexity is neither bad nor good—the question is whether it is desirable. Desirable complexity drives consumer buying decisions. Undesirable complexity unduly complicates internal processes without making a whit of difference to the consumer. Smart complexity distinguishes between the two. 

Consulting Authors

DANIEL MAHLER, PH.D., is a partner in the Zurich office and the firm's global coordinator for sustainability. He can be reached at daniel.mahler@atkearney.com.

ADHEER BAHULKAR is a principal in the Washington, D.C., office and can be reached at adheer.bahulkar@atkearney.com.

executive **agenda**

ideas and insights for business leaders

Executive Agenda® is published by A.T. Kearney to offer fresh perspectives and encourage discussion on subjects of interest to senior executives and opinion leaders worldwide.

A.T. Kearney is a global management consulting firm that uses strategic insight, tailored solutions and a collaborative working style to help clients achieve sustainable results. Since 1926, we have been trusted advisors on CEO-agenda issues to the world's leading corporations across all major industries. A.T. Kearney's offices are located in major business centers in 36 countries.

AMERICAS Atlanta | Boston | Chicago | Dallas | Detroit | Mexico City
New York | San Francisco | São Paulo | Toronto | Washington, D.C.

EUROPE Amsterdam | Berlin | Brussels | Bucharest | Copenhagen
Düsseldorf | Frankfurt | Helsinki | Kiev | Lisbon | Ljubljana
London | Madrid | Milan | Moscow | Munich | Oslo | Paris
Prague | Rome | Stockholm | Stuttgart | Vienna | Warsaw | Zurich

ASIA Bangkok | Beijing | Hong Kong | Jakarta | Kuala Lumpur
PACIFIC Melbourne | Mumbai | New Delhi | Seoul | Shanghai
Singapore | Sydney | Tokyo

MIDDLE EAST Abu Dhabi | Dubai | Manama | Riyadh

For information on obtaining additional copies, permission to reprint or translate articles, and all other correspondence, please contact:

A.T. Kearney, Inc.
222 West Adams Street
Chicago, Illinois 60606 U.S.A.
1 312 648 0111
email: insight@atkearney.com
www.atkearney.com

PUBLISHING ADVISER
Wayne Boley

EDITOR
Patricia Sibo

DESIGN
Kevin Peschke

Copyright 2009, A.T. Kearney, Inc. All rights reserved. No part of this work may be reproduced in any form without written permission from the copyright holder. A.T. Kearney® and *Executive Agenda*® are registered marks of A.T. Kearney, Inc. A.T. Kearney, Inc. is an equal opportunity employer.

ATKEARNEY®