Customer choice has never been greater, so terrific design is essential for outstanding products and services—and to build lasting customer relationships.

Because customers demand compelling experiences, successful companies create products with a “hook”—a certain look or unique features that meet customer desires and build brand loyalty. At a time when demand is restrained in many sectors and geographies, such products can be a source of differentiated growth. The most successful designs achieve this growth in a commercially viable way by juggling the trade-offs of maximizing customer value within constrained costs.

For many years, manufacturers have used the design-to-value (DTV) model to manufacture products at lower costs while retaining the features needed to compete. These principles have now evolved into design for value and growth (D4VG), a new way of creating products that provide exceptional customer experiences. Under D4VG, design not only creates value but also generates growth, through products with the features, form, and functionality that turn customers into loyal fans and leading to above-trend sales.

In addition to generating badly needed growth, well-designed products can also raise margins—even if, initially, D4VG products can cost more to build. That sounds counter-intuitive, but makes sense if considering how a design can evolve over time. The upfront investment in a design that includes extra features or more costly materials pays off if those design choices are based on a clear understanding a product’s core brand attributes, deep insights into consumer motivations, and innovative design thinking. These are the designs that hook customers. Once hooked, redesigns that focus on clever cost reduction lead to second- and third-generation products that are significantly more profitable. The impact of this approach is highlighted in research by the Design Management Institute. Over a 10-year period,
from 2004 to 2014, design-led firms delivered returns 219 percent above those of the Standard & Poor’s 500 index (Exhibit 1).

Apple is the poster child for the D4VG-led approach. When the iPhone debuted in 2007, its sleek metal case, sharp screen resolution, and easy user interface set it apart from any other phone on the market and created a massive fan base. Since then, Apple has not only managed to increase customer value through each generation of iPhone, it has also steadily cut costs. The features of the iPhone 5, released in 2012, dramatically improved on those of the original 2007 model, yet estimates suggest that bill-of-materials costs (including 26 percent lighter packaging with 41 percent less volume) were 8.6 percent lower (Exhibit 2). The iPhone 5 was followed by the iPhone 5S and 5C. The former, using a lower-cost polycarbonate casing instead of a metal one but offering similar functionality, was built to attract more cost-conscious customers.

Apple is not unique. Design-led value creation is being used across industries, including in CPG, by some of the largest global players. Still, most companies...
Operations as a competitive advantage in a disruptive environment
Design for value and growth in a new world

have not seized the D4VG opportunity. Despite the evolution of design-led product development, many companies still see it as a cost-reduction approach, often as part of a procurement cost-saving drive. Or they tinker around the edges, making minor changes they perceive will do no harm to the integrity or appeal of the product, such as thinning package walls or reducing the number of color variants. But they aren’t thinking about design that enhances the user experience and improves the desirability of a product, which would lead to higher sales and stronger customer loyalty.

Building capabilities for design-driven growth
The key to design-driven growth is blending traditional design-to-cost principles with consumer insights and specialized product-redesign expertise to create a winning combination of lower costs and more desirable products. This enhanced, reinvigorated approach requires an end-to-end perspective on D4VG:
- Knowledge of the competitive landscape to frame the product space
- Insights about competing products to understand potential alternative offerings

Exhibit 2: Later iPhone models packed more features at lower cost to Apple.

<table>
<thead>
<tr>
<th>Model</th>
<th>Release date</th>
<th>Total bill-of-materials costs (direct materials only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original 8 GB</td>
<td>2007</td>
<td>$217.73</td>
</tr>
<tr>
<td>3G 8 GB</td>
<td>2008</td>
<td>$166.31</td>
</tr>
<tr>
<td>3GS 16 GB</td>
<td>2009</td>
<td>$172.46</td>
</tr>
<tr>
<td>4 16 GB</td>
<td>2011</td>
<td>$187.51</td>
</tr>
<tr>
<td>4S 16 GB</td>
<td>2011</td>
<td>$188.00</td>
</tr>
<tr>
<td>5 16 GB</td>
<td>2012</td>
<td>$199.00</td>
</tr>
<tr>
<td>5S 16 GB</td>
<td>2013</td>
<td>$191.00</td>
</tr>
</tbody>
</table>

~12% decrease

Functionality improvements, 2007–13
- Better display
- More memory
- Faster graphics and CPU
- Thinner, lighter
- Features: assisted GPS, voice control, digital compass, gyroscope, Siri digital assistant, fingerprint sensor

Packaging improvements, 2007–13
US retail packaging of iPhone 5s was 26% lighter and consumed 41% less volume than the first-generation iPhone packaging.

Sales improvements, 2007–13

Source: McKinsey teardown analysis, web literature searches, iSuppli, HIS news release 2013
and learn from companies facing similar design challenges

- Insights from customers to determine what makes them desire a product and what they are willing to pay for

- A complete understanding of a product’s cost drivers and of production capabilities and constraints to ground discussions about feasibility and cost limits

- Design teams that bring together this knowledge in desirable product options

For the purposes of this article, we will focus on generating consumer insights and using design thinking. Other steps in the standard DTV process, such as competitive product teardowns, factory walkthroughs, and supplier workshops, are core parts of the D4VG diagnostic framework but much has been written on them previously.

A D4VG toolkit

Fundamentally, the customer must be at the heart of successful D4VG. The head of R&D at a major food producer notes that D4VG’s importance lies in how it leads with an understanding of customer desires, which it combines with customer and competitive insights for product designs that deliver improved quality and customer experience at a lower cost. Furthermore, the alignment D4VG produces around customer needs helps resolve what the company should prioritize in new designs.

Critical to D4VG is a set of six next-generation customer-insight tools that avoid the unconscious bias inherent in classic interview or survey questions. They provide a more sophisticated way to look at customers’ behavior and assess their reaction to different product features.

- **Use it or lose it** analysis systematically maps choices against consumer preferences to understand whether customers value specific features or attributes, which can be omitted if they do not make the cut.

- **Technical testing** uses competitive benchmarking to clarify the performance-versus-cost trade-offs of design choices.

- **Buzz analytics** researches customer opinions captured on websites and social media about product features and attributes, then maps the relative importance of each feature to the brand’s overall performance.

- **Product testing** via mock shopping experiences determine if consumers notice premium attributes in blind testing.
MaxDiff surveys help companies understand the relative importance of product features and attributes by asking participants to make trade-off choices.

Conjoint or other kinds of quantitative analysis help identify which attributes are the most important to customers and how much value they attach to each attribute.

**Organization for D4VG**

To succeed at D4VG, however, companies need more than just new capabilities—they also need the organization and mind-set to use them fully. All too often, we see clients requiring help with problems that result from unresolved conflicts between different functions, such as marketing, R&D, and product design. Marketing wishes to please customers with a “gold standard” product at a competitive price, or want to avoid any impact on a successful brand; product design and R&D are under pressure to keep down costs. Despite the best intentions, these cross purposes can lead to a stalemate that delays new products. For example, at a leading fast-moving-consumer-goods company, the design team couldn’t make changes without explicit agreement from marketing, which meant that someone from senior management had to weigh in before design changes could be seriously considered.

D4VG counters these effects by relying on cross-functional teams that bring together the core stakeholders: purchasing, manufacturing, R&D, quality, marketing and sales, finance, and design. Team members hammer out their differences within the group, reaching alignment by focusing on the customer needs in question. For example, a European dairy producer set up an intensive, four- to five-month product category review process led by cross-functional working groups. Comprising about ten people, with expertise in product development, production, packaging, marketing, and distribution, the groups created a suite of product-redesign initiatives that were then validated and implemented, as appropriate, by the product-development team.

That approach needs strong leadership to bring together a diverse range of stakeholders. For example, when a global electronics manufacturer went through a two-year D4VG program to save more than $1 billion while intensifying its products’ desirability, it set up a clear governance structure to oversee the work. A new global head of D4VG, reporting to the global chief procurement officer, led a team of D4VG project leaders who had a specific mandate to partner with stakeholders across the company’s markets and businesses to promote the development and implementation of ideas.
Many companies that wish to embed D4VG in their processes have invested in dedicated design organizations, which may be led by a chief design officer. In CPG, a North American food company sought to ensure sustained impact from its D4VG group by following three principles for organizational alignment:

- Define clear role boundaries between D4VG and R&D
- Have the D4VG organization report directly into a senior leader (initially the COO) to give it a seat at the table when decisions are made
- Help the design organization move beyond a design-to-cost mentality and find opportunities to add value

To this end, the company used D4VG to maximize margins and optimize prices, with a new focus on understanding customer desires, enhancing existing products, and developing new ones to meet unmet needs (such as through ingredient substitution). To keep the customer central to its design approach, it developed a new method for testing ideas jointly with retailers prior to product launches. These changes, together with a more traditional DtV approach to redesigning its current portfolio, enabled the company to review and tweak its product line — enhancing customer experience while eliminating costs. Now repositioned against its competition the company has generated significant margin benefits over a sustained four-year process.

We see a bright future for D4VG. With consumers increasingly influenced by design, we believe that design-driven companies will continue to outperform their peers in both sales and profit growth. D4VG is a critical tool for growth-oriented companies that want to exploit consumers’ unmet needs by creating new features, appealing to their aesthetic sensibilities, and building strong customer loyalty to.

1 Jeneanne Rae, Good Design Drives Shareholder Value, May 2015, dmi.org.
2 For example, a better display, additional memory, lighter weight, voice control, and a digital assistant (Siri).

**Ankur Agrawal** is a partner in McKinsey’s Detroit office;
**Mark Dziersk**, the head of LUNAR, is in the Chicago office;
**Dave Subburaj** is a consultant in the Miami office; and
**Kieran West** is an associate partner in the London office.

Copyright © 2016 McKinsey & Company. All rights reserved.
D4VG case study: ecobee

Toronto-based ecobee helped create a new thermostat category by being first to market, in 2009, with a Wi-Fi-enabled smart product. But it was overtaken in 2012, after competitors launched a thermostat that attracted a broader base of consumers. A design company, engaged with a remit to help ecobee regain market share, designed a program of qualitative research conducted with professional installers and homeowners to understand the ecosystem of selection, purchase, installation, and use. Following a development plan that included generating insights, prototyping concepts with users, and engineering solutions to technical challenges, the design team identified ecobee’s “ownable” differences and unearthed crucial expectations that would set the new offering apart from its chief alternatives.

This design work led to the development of a new-to-market feature—remote sensors that help the system know where you are in your house and the temperature there—that gave the user greater control over all the spaces in the home, not only in the thermostat’s front-hall location. The new “squircle” shape is a recognizable icon (Exhibit 3). Moreover, the user experience and interface have been tailored for each context: wall, mobile, and PC.

The ecobee3 has been recognized in multiple design competitions: a Spark Award in 2014, the PC Magazine Editor’s Choice Award in 2015, and an iF Product Design Award in 2016. This design, which enabled ecobee to launch directly in several additional retailers, has driven significant growth, and it is the highest-rated smart thermostat in leading retailers’ online stores.