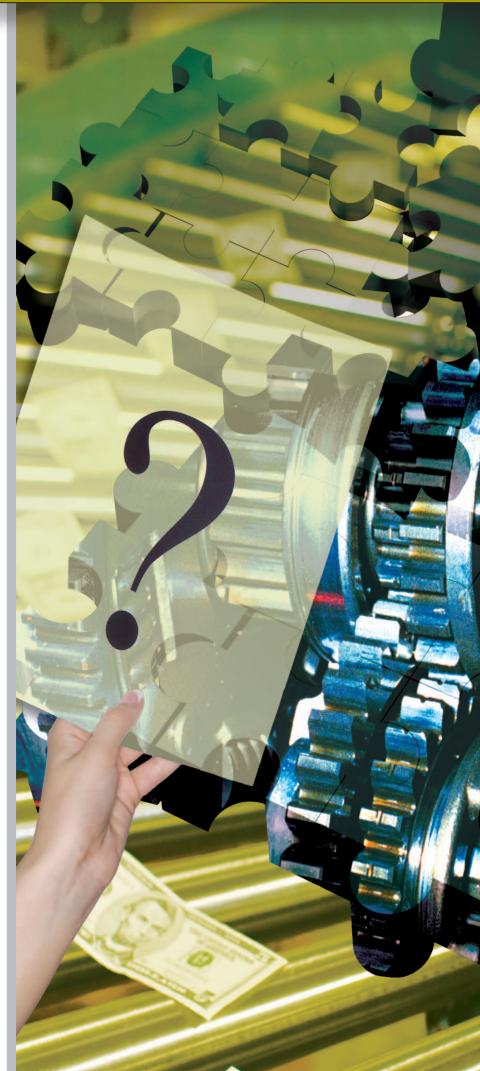


Make vs. Buy Revisited

Reassessing your company's manufacturing strategy



Make or buy? The classic manufacturing question still has no easy answer. Amid signs of demand recovery, but with capital still limited and resources thinned by restructuring, top executives today are revisiting the issue. To come to the right make-or-buy decision, leading companies resist the temptation to “feed the beast.” Instead of focusing only on short-term gains, these leaders keep their long-term strategy and corresponding core competencies in mind. They adopt a clearly defined manufacturing strategy, and then adopt the right tactics that can lead to smart decisions and a competitive advantage.

The trade-offs between making a product in-house and buying it externally are well known to most senior executives. The “buy” approach—a manufacturer purchasing a necessary part from an outside source—frees up resources, reduces capital demands, increases flexibility and improves returns on capital employed, but in a tough market companies may seek to avoid potential quality concerns and supply risks. On the other hand, a “make” approach—developing and building that same necessary part internally—enables the company to utilize available internal capacity, absorb fixed costs and protect intellectual property, but it can lead to unnecessary complexity and divert time and attention away from higher-value activities.

Choosing “make” simply because the capacity already exists, or “buy” to avoid investment in a time of limited capital, may work 90 percent of the time, but that 10 percent when it’s wrong can have dramatic, long-lasting consequences. Considering this, we have developed a comprehensive framework that helps our clients answer the make-or-buy question by reassessing their

manufacturing strategies, and then using the right tactics to implement them. By supporting and applying the criteria for decision-making in a consistent and comprehensive manner, companies can make the right make-or-buy decision 100 percent of the time and thereby gain a competitive advantage.

Getting Down to the Core

Making the right make-or-buy decision depends first on having a manufacturing network that consists exclusively of high-performing plants aligned to company strategy. We advise our clients to begin their make-or-buy decision by assessing the strategic value and performance of every plant, technology and technology-plant pair (also known as a logical manufacturing unit, or LMU) in their network. By determining which operations are worth keeping in-house, a company can effectively determine whether a product should be made in-house.

We divide plants, technologies and LMUs into four categories of operations that represent their relative importance to the network and, by

extension, offer guidance on the make-or-buy decision. The categories are determined based on strategic value, which includes financial value and technology and geographical advantage; and performance, which includes cost, quality and productivity, preferably compared to external benchmarks if they are available (see figure 1).

A personal-care products manufacturer used

this framework to challenge the assumptions that had underpinned its manufacturing infrastructure and high-level strategy. By reassessing its manufacturing strategy, the company created a new, more solid foundation for answering the make-or-buy question (see sidebar: *Case Study: A Revamped Network*). Following are the four manufacturing categories (see figure 2).

Figure 1

Sample criteria for evaluating strategic value and performance

Strategic value

Elements	Weight
Profitability	25%
Sales growth	15%
Technical differentiation	20%
Contract manufacturers capability	15%
Proximity to markets	10%
Trade implications	10%
Macroeconomic situation	5%

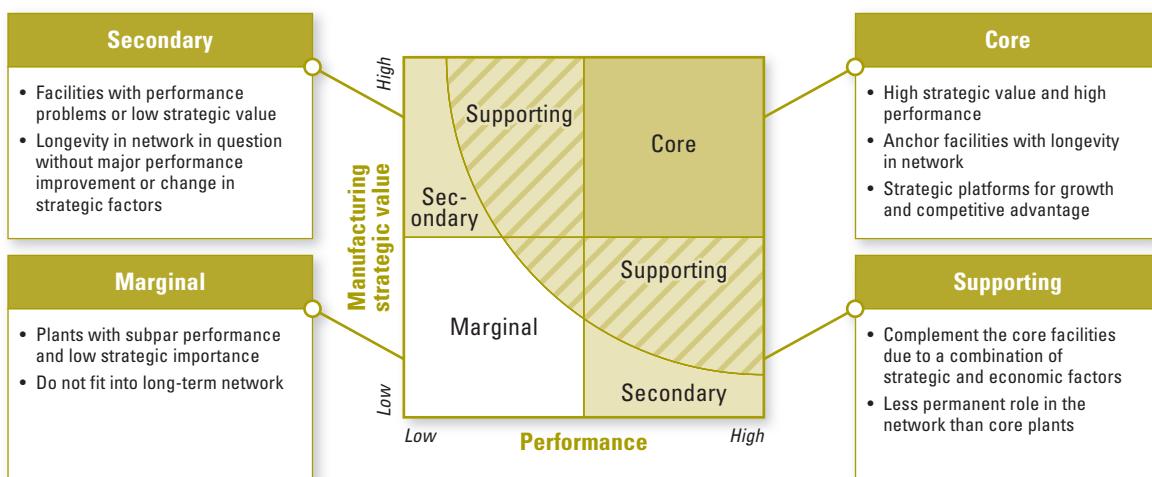
Performance

Elements	Weight
Conversion costs	40%
Manufacturing flexibility	20%
Defects per million	10%
Beauty fill rate	10%
Overall equipment effectiveness	10%
Asset utilization	10%

Source: A.T. Kearney analysis

Figure 2

Manufacturing assessment approach



Source: A.T. Kearney analysis

Case Study: A Revamped Network

A global personal-care products company wanted to improve its make-or-buy framework by reassessing its manufacturing network and then encompassing those changes into its make-or-buy decision framework for new products.

As demonstrated in the figure below, a plant's value in the performance and strategic value is only part of how we helped the firm determine core, supporting, secondary and marginal operations. Let's examine how our client categorized its facilities.

Core. Four valuable, high-performing facilities will be the foundation of the network and will also absorb the production of the marginal facilities that will be eliminated. These core plants had the highest performance and most strate-

gic value, and their location made them strong candidates for serving as regional anchors. Performance for these facilities must, at the very least, remain at the same level.

Supporting. Two supporting facilities were identified—one with relatively high performance and low strategic value, the other with high strategic value but lower performance. The plant identified as Plant K in the figure was deemed critical for supporting an important local market, but its performance needed improvement. Plant E, on the other hand, was the network's top performer and was identified as a possible area for supporting additional demand.

Secondary. One of the three secondary facilities actually rated lowest on the matrix—it was the worst per-

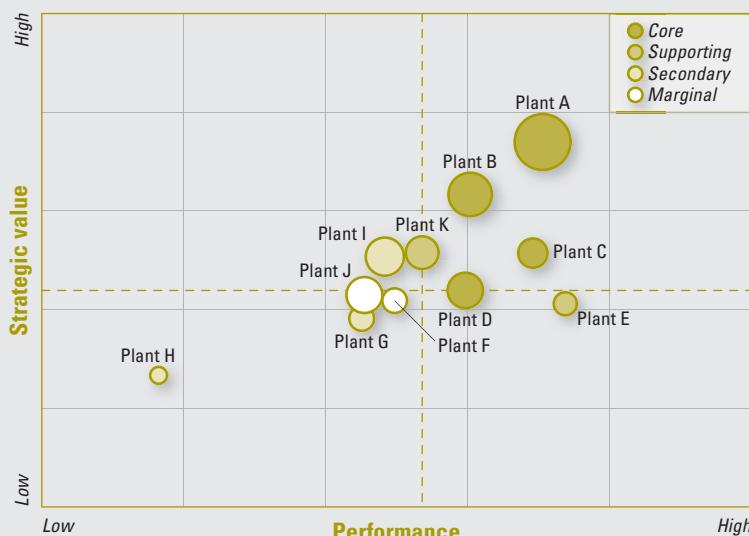
former and had the lowest strategic value—but an examination of regional and local needs highlighted its long-term potential. The plant was in a region where potential changes to local business and trade rules could lead to this region becoming a major market. Nevertheless, it will have to improve its performance in order to be worth keeping, even if demand does pick up.

Plant G, despite its low performance, may remain as a supporting facility if customer demand unexpectedly extends beyond the capacity of the corresponding regional anchor facility. Plant I was maintained as a supporting operation to absorb overlapping capacity in the region. While the plant's region could grow in coming years, these plants could be rationalized in the medium-to-long-term.

These secondary operations will remain in the network in the short-to-medium-term, primarily to serve markets with political or economic uncertainty and to facilitate the manufacturing consolidation effort. Their long-term presence in the manufacturing network, however, will be constantly questioned during annual planning cycles and capital investments will be subject to significant scrutiny.

Marginal. Plants F and J, which overlapped other plants in the region, were identified for elimination. Our clients planned to have these plants' volume (and some of their equipment) absorbed by the regional anchor facilities in the short term.

Figure: Comparing strategic value and performance to assess the manufacturing network



Source: A.T. Kearney analysis

Core. These operations have high strategic value and performance and serve as the anchors for supporting and sustaining growth. Given their value to the network, they must maintain high performance levels. Core operations typically grow in size and value when other non-core units are tagged for rationalization and they take on broader regional or functional roles.

Supporting. These complement core operations, but either their strategic value or performance is lower, and their role in the network is less permanent. Based on various economic or geopolitical factors, their strategic value could rise or fall, meaning that these operations could become core or secondary in the future.

Secondary. Poorly performing operations or those with low strategic value fall in this category. Their future in the network remains in question

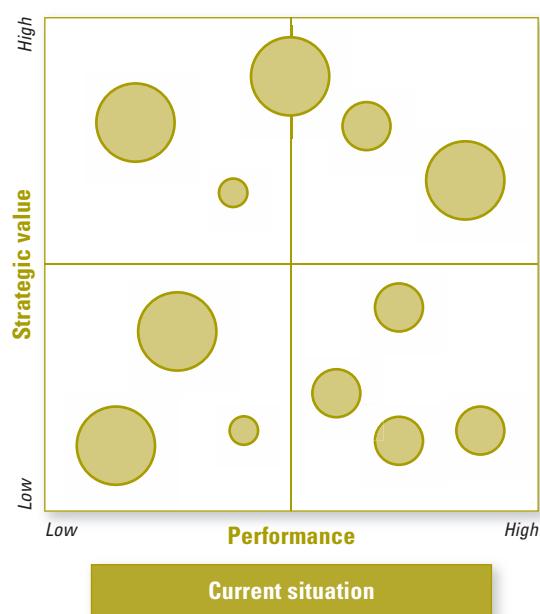
unless there is significant performance improvement or a change in strategy. Typically, secondary operations are either improved or sold off when the right opportunity arrives.

Marginal. These operations with poor performance levels and limited strategic value do not fit in the network and should be rationalized as quickly as possible so that they no longer occupy company resources, effort and capital.

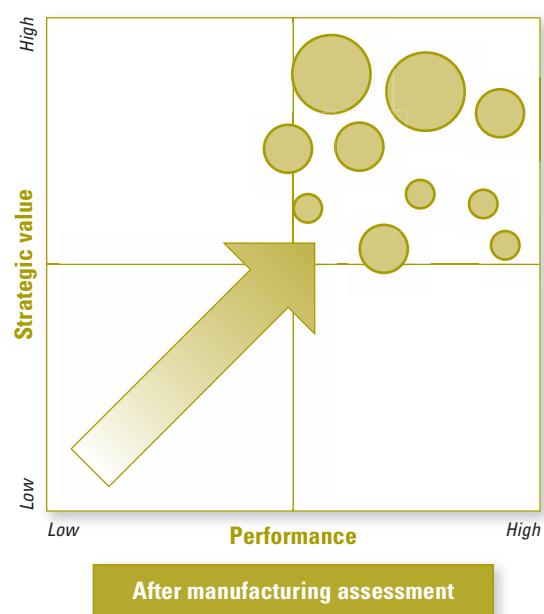
As no company's situation remains static, the manufacturing network should be reassessed every two to three years, as business conditions, supply markets and global dynamics, such as labor arbitrage and transportation costs, shift. This framework applies to plants, technologies and LMUs in all regions; the technology view will provide a perspective on internal capabilities, while examining plants will offer perspective on local needs

Figure 3
After the analysis, our client had a leaner asset structure

Lean asset structure (LAS) framework



Source: A.T. Kearney analysis



After manufacturing assessment

(see sidebar: *Technology Analysis* on page 6). At an aggregate level, technologies may be core, but when analyzed at the regional level, they may in fact be supporting or secondary. An assessment of this nature will help develop a revised manufacturing network that is built around a lean structure consisting of high performing, strategic assets (see figure 3).

In terms of the make-or-buy question, determining which plants and technologies should stay in-house ultimately will lead to a decision on whether a product should be made internally or bought.

The Make-or-Buy Roadmap

The updated manufacturing strategy is the first and most important factor in answering the make-or-buy question. An assessment of a product's compatibility to the manufacturing strategy is the first of six typical assessments that companies make

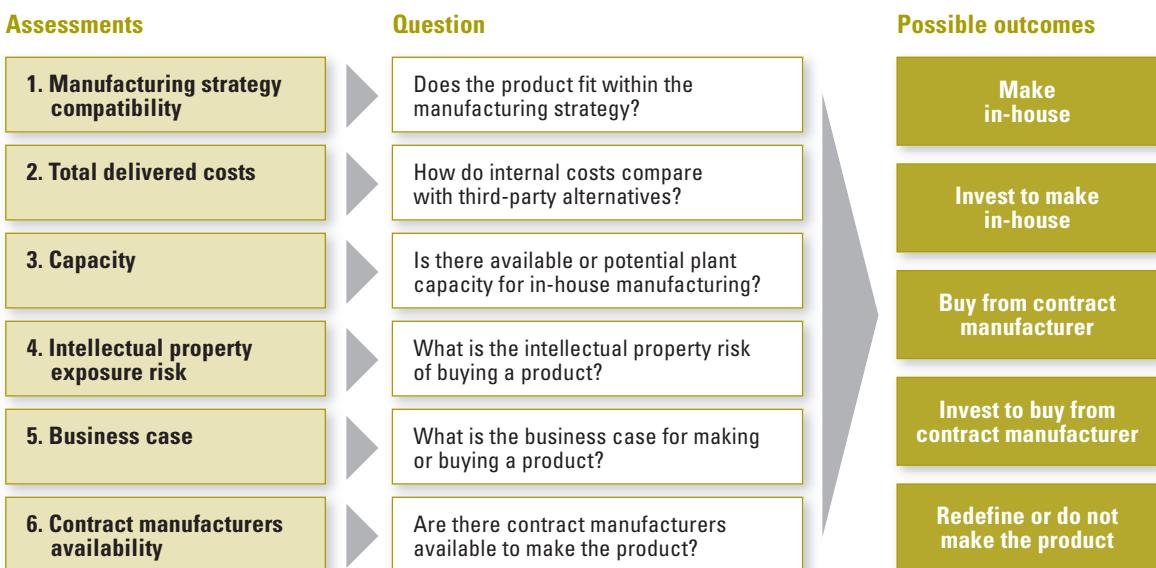
to ensure consistent, structured and unbiased decision-making for the make-or-buy question (see figure 4).

For some companies, not all of these assessments may be necessary to make a solid make-or-buy decision. Additionally, final recommendations may go beyond simple make or buy: Other options may include investing in infrastructure to make it in-house, investing in helping a contractor develop the product, and redefining or killing the product altogether.

Let's look at the six assessments:

Manufacturing strategy compatibility. A tendency to “feed the beast”—to make a product simply because the capacity exists—is one of the most common missteps we see. Best practice companies, however, assess whether making the new product in-house will be consistent with their updated manufacturing strategy. In this assessment, the facilities, technologies, processes and

Figure 4
Six assessments to answer the make-or-buy question



Source: A.T. Kearney analysis

materials required to make a product in-house are verified against a list of pre-defined standards. If there is no match, new products automatically become “buy” candidates. If there is a match, the product is still subject to subsequent analyses to determine whether internal production is the right decision.

Total delivered costs. This next analysis compares internal and external options in terms of cost. This analysis should serve as a confirmation of the manufacturing strategy; if it shows that

the product cannot be made internally in a cost-competitive manner, this may be a red flag that the manufacturing strategy is flawed.

Capacity. In this assessment, the capacity required to make a new product, based on demand projections, is compared with the capacity available in-house. A shortage may not mean an automatic “buy” situation—it could lead to areas where new products might substitute existing products that fit poorly into the manufacturing strategy.

A Technology Analysis

Our client performed the manufacturing assessment analysis for nine technologies, selecting five to keep and four for rationalization (*see figure A*). Technologies 1 and 2 were deemed core; the remaining were either supporting, secondary, or marginal. In this case, the prelim-

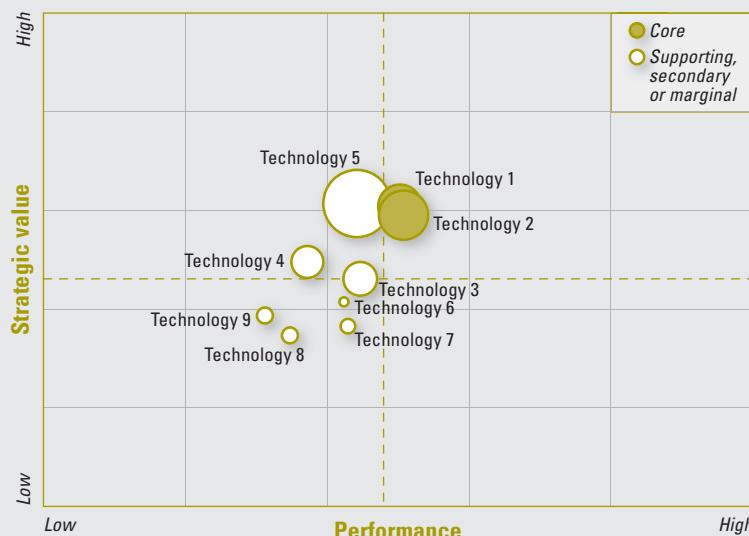
inary conclusion was that not all technologies, including some that scored high in strategic value, should be maintained in all facilities. Which technologies to keep will depend on the relative value and performance of the technology-plant pairing.

To understand the viability of different technologies within the manufacturing network, a cosmetics company applied this framework by overlapping the plant and technology dimensions (*see figure B*). Two technologies in particular highlight the decision this company made:

Technology 5. This technology on its own was of high overall strategic value, but when it was analyzed within the context of different plants, its value and performance were questionable. As a result, the internal manufacturing of products using Technology 5 was to be revisited for some of the anchor facilities.

The analysis found that current production volumes using this technology represented the largest category at this cosmetics manufacturer. Even though it formed the largest product-technology category, with 10 capable facilities, internal production was too fragmented across the manufacturing footprint. Based

Figure A: A sample analysis of technology value and performance



Source: A.T. Kearney analysis

Intellectual property exposure risk. Protection of a product's intellectual property must be guaranteed when sent to an outside manufacturer. Shifts in regulations and enforcement (for example, in China) might in the long-term affect the manufacturing strategy.

Business case development. New products might require internal investment to make, or external deals with contract manufacturers to buy. In either case, does it make financial and operational sense for the company, considering all the

variables, benefits and risks? If not, the product may need to be killed or redefined.

Contract manufacturer availability. All of the previous factors may be in favor of buying a product, but are there third-party alternatives for producing a new product, and are they up to the task? On top of manufacturing capabilities, cost, service, quality and time-to-market should be considered.

Typically, these assessments take the shape of a decision tree of specific questions that lead to

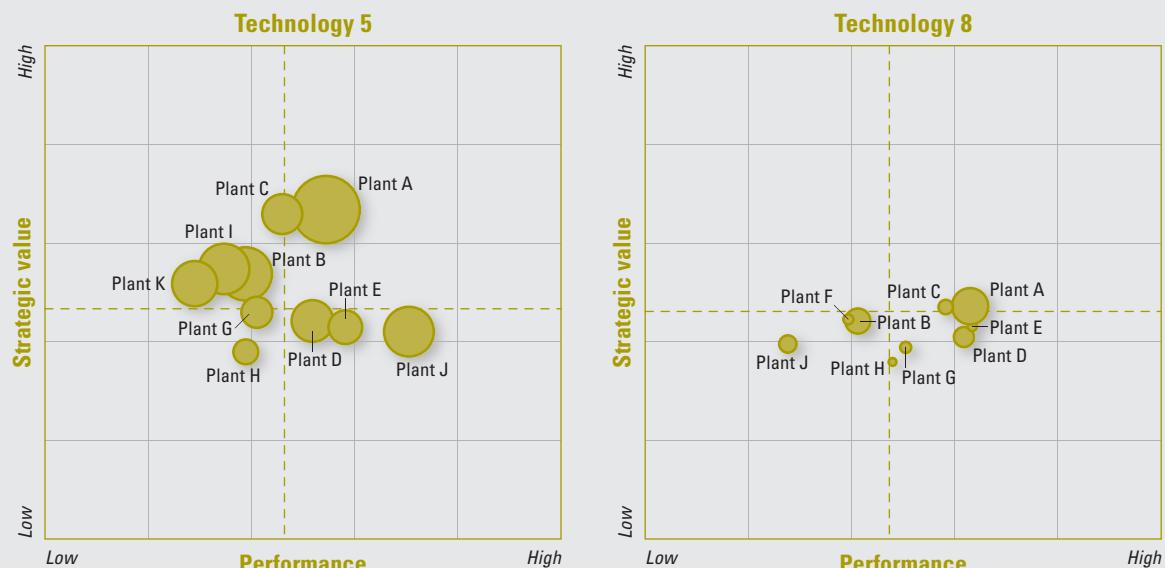
on the relatively high strategic value of this technology, it will be maintained in-house in three core facilities as long as performance is improved.

Technology 8. The company questioned the value of this technol-

ogy because of its fragmented footprint and relatively low performance. Production volumes using this technology represented a relatively small portion of the total in-house production of the client, and with nine capable facilities, production was

too fragmented. Compared to other technologies, Technology 8 had the lowest strategic value and one of the lowest performance scores. As a result, the company discontinued using the technology internally for all facilities.

Figure B: Overlapping the value and performance of technologies and plants



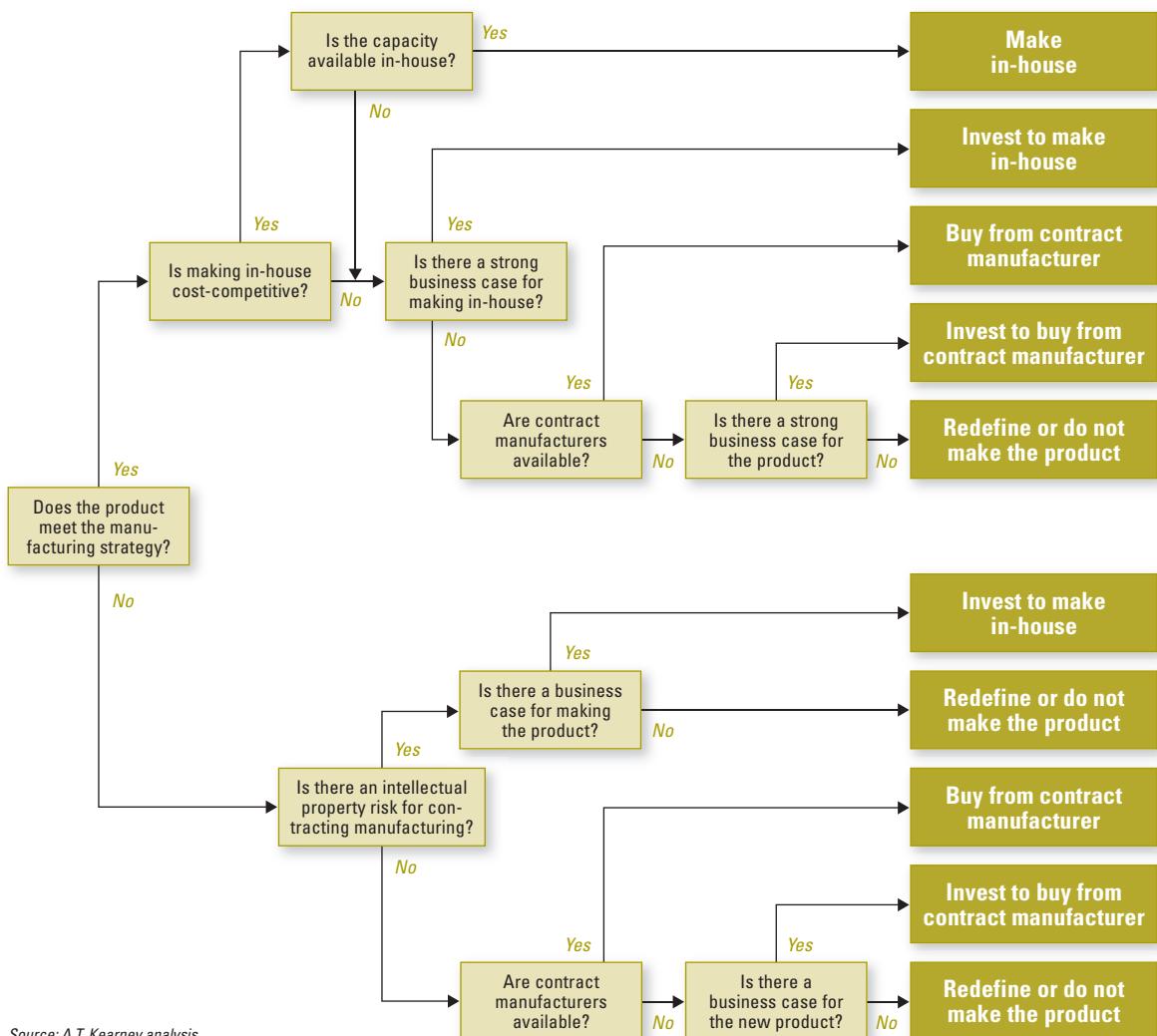
Source: A.T. Kearney analysis

a make-or-buy recommendation (*see figure 5*). For companies in which many new products are launched every year, these analyses offer straightforward answers to the make-or-buy question. Simply speaking, if a new product fits the manufacturing strategy, internal production is cost competitive and capacity is available, the product should be made in-house. On the other hand, if

the product does not fit the manufacturing strategy, the intellectual property can be protected and capable and competitive suppliers are available, it should be bought.

When new products deviate significantly from the existing portfolio, the framework offers the basis for more demanding operational and financial due diligence. In the new product devel-

Figure 5
A sample make-or-buy decision tree



Source: A.T. Kearney analysis

opment process, this make-or-buy framework could be applied at different steps of the stage-gate process, leading to directional assumptions that can be refined into final make-or-buy decisions as more information about the new product becomes available.

Enabling Success

How do leading organizations succeed in the make-or-buy question? They exhibit the following traits to create a workable and consistent make-or-buy process.

Clear roles and responsibilities. Top stakeholders should be identified, with their roles in the decision-making process made clear and consistent. Straight-forward, RACI (responsible, accountable, consulted, informed) plans can clarify the expected level of involvement and roles of such stakeholders.

Easily applicable manufacturing strategy. This framework is for the day-to-day deployment of the manufacturing strategy; for full effectiveness, the strategy must be articulated in practical terms. Which operations are core? What raw and packaging materials are standard? Which products have the highest manufacturing priority? This information will guide the first analyses of the make-or-buy question for a product.

Identifying and certifying contract manufacturers. The buy decision is limited by the availability of capable contract manufacturers. A certification process to identify, audit and select potential manufacturing partners with proven capacity, quality, service and costs will ensure that the buy decision is the right decision.

Cost transparency. A true “apples-to-apples”

comparison will define cost competitiveness for internal and external supply alternatives. Simply comparing internal conversion costs to contract manufacturers’ quoted prices will likely result in the wrong make-or-buy decision. Leading firms also factor in internal fixed costs, additional logistics costs such as transportation, warehousing and safety inventory, testing and quality costs.

Business case. In best-run companies, standard business case models collect complete, consistent information that lead to accurate

By reassessing its manufacturing strategy, one company created a new, more solid foundation for answering the make-or-buy question.

and tangible results—and the right decisions. Comprehensive analyses should include the strategic and competitive context, execution and implementation plans, risk assessments, and financial and scenario analyses.

Decision-revision thresholds. While the present conditions—including the current manufacturing strategy, rules and regulations, processing requirements, volumes, sales, costs and service levels—may support making a new product in-house, any changes in those conditions may require the decision to change.

At leading companies, the make-or-buy decision for a new product is not a one-time exercise.

They incorporate thresholds past which the make-or-buy decision for a new product will change. For example, a consumer goods company may decide to buy what it needs for a new lip balm, considering that at this point they anticipate only selling one million per year. But, at the time of the decision, it also determines that if sales surpass two million per year, making the product in-house will be the smarter decision. Once that threshold is passed, its make-or-buy decision will change.

Answering the Classic Question

Successfully answering the make-or-buy question can only take place when the business strategy is articulated into a pragmatic manufacturing strategy, when contract manufacturers have been identified, tested and certified, and when transparent information allows for an analysis of true cost.

The classic make-or-buy question may still have no easy answer, but a clearly defined strategy and framework can lead a company to the right decision.

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