The new make-or-buy question

Strategic decisions in a time of technology, product, and commercial disruptions

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In the past, companies evaluated whether to make components and parts themselves or buy them from suppliers largely by determining the total cost of ownership. Priority, risk, cost of shipments, labor, lead times, and market conditions were taken into account based on the status quo. But in today’s business environment, the “as-is” method of viewing a business through current marketplace conditions, manufacturing requirements, and supply chain availability is no longer sufficient. It is too reactive and shortsighted to overcome disruptions that are now endemic to virtually every industry in the form of competitors adopting the latest technology, rethinking product designs, or embracing innovative business models with novel ways of reaching customers.

To better deal with the disruption challenge, we offer a new strategic approach for the make-or-buy calculus: the coherent capability make-or-buy framework. This approach considers the impact of disruption on an industry’s value chain; examines which competitors, technologies, and business models pose the greatest threat in the immediate future; and analyzes which products and services will be most attractive to consumers in the coming years. From this more germane assessment, companies can determine how disruptive trends should color their make-or-buy decisions, whether they choose to compete in the transformed operating environment with a distinctive or innovative product or just maintain some level of market share as table stakes to remain a player in the industry. This analysis helps them identify critical products that must be made in-house to maintain a competitive and innovative edge versus those that can be outsourced more readily without harming growth prospects.
Facing disruption by assessing the future

For most companies, dealing with disruption has become as unavoidable as reporting quarterly results, whether the upheaval comes from new technologies, unexpected and innovative competition, market shifts, or fundamental changes in a product or service. In fact, perhaps the best evidence for the depth, uniqueness, and probable permanence of these disruptions can be found in the way they are affecting what just a few years ago was a relatively simple decision: Should we make or buy the parts or components that are essential to our products?

During the past several decades, particularly since globalization has taken hold, companies could address this question with a straightforward formula, primarily by evaluating “as-is” conditions through the lens of traditional total cost of ownership (TCO). For instance, in determining whether to farm out production of a component, they might make the decision by measuring how critical the part is for consistently providing products to customers at a certain standard of quality or a lasting competitive advantage. In this context, they would calculate the cost to the business if a supplier’s shipments are interrupted and investigate the possibility of other suppliers being available to quickly fill the vacuum. Similar as-is make-or-buy calculations are often used to examine the financial stability of suppliers or how in-house costs differ from outsourced, taking into account logistics and management of external suppliers.

To many companies, the traditional make-or-buy decision checklist seems to be sufficient for determining which parts to manufacture themselves, and which to outsource. But these discussions are often isolated in procurement and operations functions and tend to be limited to questions about how to serve the existing market at the lowest costs. A company that uses traditional measures of cost and efficiency misses an important opportunity to approach the make-or-buy decision as an opening to a broader exploration of the disruptions the company will face in the coming years. Companies that take the myopic route will find that they’re continually implementing make-or-buy decisions that are reactive, or at best a short-term fix, and adopting operational solutions that exist apart from strategic planning or insight.
Reactive, siloed decision making isn’t good enough in a fast-moving era of continuing disruption. Although the make-or-buy assessment is just as important as ever, it needs to be propelled by a vision of what the future will look like and how the competitive landscape will shift, as well as the company’s capabilities and preparedness. We call this analytical effort a coherent capability make-or-buy framework (see Exhibit 1, next page).

The coherent capability framework would address the following questions:

• How will innovation and new technologies alter the contours of the industry in the short and long terms?

• Who will be the new and most threatening competitors that we need to outperform?

• Which of today’s markets will still be lucrative tomorrow? Which products or product categories that are on the drawing boards now will be preeminent?

• Does the company have the capabilities to be a market leader in this reimagined future, and are these capabilities aligned with its supply chain model?

Most important, the coherent make-or-buy framework takes into account the impact of disruptive trends in determining the future supply chain and assesses whether the company has the internal or external capabilities to manage the supply chain it needs. Unlike in the traditional approach, the total cost of ownership is evaluated only after the make-or-buy scenarios are ranked based on the opportunities and risks of impending disruptions.

One interesting aspect of this analysis is that it presents an opportunity for companies to examine whether they can gain a competitive edge in terms of costs, flexibility, innovation, operations, or market presence from the new business imperatives that emerge from disruption. When the conditions are ripe to take advantage of the disruption, companies tend to shift to bringing more manufacturing and services in-house rather than risk losing core capabilities by depending on third parties for core business activities. On the other hand, if disruptive trends are associated with high risks and uncertainty, companies may choose to create supplier partnerships that allow them to maintain a foothold in key parts of the supply chain without fully extending resources to own it.
Exhibit 1
Traditional “as-is” vs. coherent capability make-or-buy approach

“As-is” make-or-buy approach

- Focused on functions rather than capabilities
- Mostly limited to extrapolation of “as-is”
- Does not take into account total costs
- Needs to be evaluated together with capabilities

Strategy fit and capability vision

Coherent capability make-or-buy approach

- Strategy fit and capability vision
- Develops coherent future supply chain (make and buy) capability vision along with strategy

Disruptive trends

- Internal capability (including capabilities to manage suppliers and process) assessment

Disruptive trends

- Development and evaluation of make-or-buy scenarios (including opportunities and risks)
- Derives coherent capability systems
- TCO evaluation

Market considerations

- Strategic priority and risk

Internal vs. external capabilities

- Economic evaluation
- Does not take ability to manage new supplier/process into consideration

Internal capability assessment

- External capability assessment

Source: Strategy& analysis
Implementing a coherent capabilities-driven production and supply chain network requires examination and accurate forecasting of three categories of disruptive trends: technology disruption, product disruption, and commercial disruption (see Exhibit 2, next page).

**Technology disruption**

**What it is:** Technology disruptions are the result of new innovations — such as 3D printing, the Internet of Things (IoT), and robotics — that greatly improve productivity while diminishing production costs, such as labor, logistics, and materials.

**The impact:** Technology disruptions reduce offshoring cost advantages so that manufacturers have a motivation to reshore from emerging nations to developed regions. Perhaps most important, the new technologies offer opportunities for proprietary innovation that can foster a competitive advantage. This often leads to “make” decisions focused on strengthening a company’s core capabilities.

**Evidence from the textile and footwear industry:** Technology disruptions can be felt in virtually every industry. In the textile and footwear business, for example, competition is rampant and customer preferences are liable to shift quickly and often. As a result, the need to tailor and customize products for individual markets is paramount. In the past, however, many companies have actually worked against this goal with some of their manufacturing footprint decisions. Instead of drawing closer to their customers, they have sent production to Asian factories, relying on inexpensive labor to keep prices down even while putting up with unacceptably slow manufacturing and logistics schedules. With products sourced far from the majority of consumers, there is a risk that the merchandise will be out of style by the time it reaches the retail partner.

Technological disruptions have allowed Adidas to obviate the shortcomings of this outsourcing model. To begin to diminish its offshoring program, Adidas recently built what it calls speed factories in Germany and the United States, fully staffed by robots for large-scale production of running shoes. For Adidas, the speed and flexibility of the robotic equipment serve as the justification for a shift from buy to make. As a result the company is able to enhance core capabilities that are critical to its success — namely, bringing new sneakers to local markets more quickly and customizing shoes for individual consumers through online venues without having to charge a significant premium. Moreover, it improves the sportswear maker’s relationship with retailers and makes it possible to fill orders based on current trends without the need to keep huge warehouses of products.
### Exhibit 2
Types of disruption that change the classic make-or-buy approach

**Technology disruption**

The result of new innovations that greatly improve productivity while diminishing production costs

*Examples: robotics, IoT, 3D printing*

**Product disruption**

A reimagination of an existing product with a similar scope of application

*Example: e-mobility*

**Commercial disruption**

Redefinition of the business model to serve the end customer, while the actual product remains the same

*Example: online grocery shopping*

Source: Strategy& analysis
Evidence from the aerospace industry: Most manufacturers in the aerospace industry, at one point or another, face a shortage of some small part on the assembly line, inevitably resulting in unexpected and costly downtime. Among the drawbacks are higher manufacturing costs, maximized materials waste, and longer production lead times. Besides, dependence on external suppliers gives a company limited oversight of its components.

When Airbus faced this situation a few years ago, a tiny, relatively inexpensive removable bracket made by a supplier was the culprit. Frustrated by the potential production and revenue losses on an idled assembly line, the aircraft maker decided to start producing the bracket in-house using a 3D printer. Within a couple of months, the part deficiency was corrected. Thereafter, this new process for procuring the bracket consistently saved 50 days or more on supply lead times.

That was a valuable lesson for the company. By taking advantage of the technology disruption fostered by 3D printing, Airbus found that the make option became more attractive than using suppliers for limited-production items. Consequently, since then Airbus has implemented 3D printing for a growing variety of production and spare parts on demand. Perhaps more important, the technology is increasingly seen as a catalyst for broader efforts targeting fundamental design improvements such as new bionic designs that give the company a competitive edge.

Product disruption

What it is: Unlike a technological disruption, which introduces a completely new element into the manufacturing sphere, a product disruption occurs when there is a reimagining of a product that already exists, with a similar scope of application. This is happening in the auto industry, with e-mobility changing the way vehicles run. Product disruptions alter the value chain as companies react to radical changes in their primary products by considering new vertical integration make-or-buy arrangements to acquire parts or components.

The impact: Faced with a product disruption, companies tend to diminish their risk by engaging in make decisions or partnerships, hoping to maintain core capabilities necessary for flexibility in response to market changes.

Evidence from the automotive industry: The evolution of e-mobility means that as electric powertrains emerge as equals to internal combustion engines, automobile makers will have to decide whether to vertically integrate batteries and battery cells — the essential equipment in these cars — into their assembly operations or work with suppliers to make the...
parts. Much is at risk in these considerations. Most traditional automakers have generally adopted buy strategies for batteries — but that approach cedes 40 percent of the value chain to suppliers and could be a missed opportunity if electric cars catch on at anywhere near the level of internal combustion vehicles today. Competitors opting for vertical integration may outdo them by developing innovative proprietary battery systems that enhance vehicle performance and attract customers. On the other hand, an aggressive make decision could distract original equipment manufacturers (OEMs) from gaining skills in other technologies, such as hydrogen fuel cells or hybrid cars, that may dominate the market in the future — and could impede their attempts to expand capabilities in areas that allow them to be more immediately responsive to changing customer preferences.

For these reasons, OEMs are very cautiously weighing their manufacturing footprint options, hoping to put themselves in a strong position to financially benefit from the electric car value chain without being sidetracked by a product with which they have little expertise and that offers questionable rewards.

To illustrate the confusion caused by the uncertainty of this product disruption, consider the experience of Daimler, which was one of the few OEMs to adopt an aggressive make approach. Daimler assembled its own battery cells for a few years before dropping this effort in December 2015, when it shut down its Li-Tec unit in Germany, citing high costs, overcapacity in the market, and the emergence of low-cost Asian competitors. Meanwhile, the two leading suppliers of battery cells, Samsung and LG Chem, are attempting to move higher in the electric car value chain by offering complete battery systems that include modules and equipment that tie directly into the drivetrain. Arguably, these modules offer the most potential for innovation in the battery sector and could turn out to be a proprietary part of the electric car that some OEMs want to maintain for themselves. Taking another route are vertically integrated companies like Tesla and BYD, electric car manufacturers that are also full-fledged battery systems providers.

Given this range of tactical permutations to manage the product disruption and the high costs and capabilities required to adopt a make approach for battery systems, it is telling that some auto companies are trying to diminish their long-term risk by engaging in partnerships rather than pure buy relationships with suppliers. For instance, BMW and Samsung have established an arrangement that gives the OEM a continuing role in the development of next-generation batteries and allows it to maintain core capabilities in the developmental corner of the battery sector. In the future it will be in a position to bring essential aspects of battery design and manufacturing in-house, or if necessary devote resources to addressing other product disruptions in the automobile industry, such as autonomous cars.
**Commercial disruption**

**What it is:** Commercial disruptions essentially change the relationship that companies have with their customers while the actual product remains the same. This type of disruption redefines the business model to serve the end customer, whose expectations around convenience, deliveries, product availability, breadth, and efficiency change dramatically. Online grocery shopping, for example, requires a new business model for an existing product or set of services. Incumbent companies facing this type of disruption are in the midst of a redefinition of traditional core capabilities in their industries.

**The impact:** To succeed in a commercial disruption against new competitors and business models — many of which are distinguished by a more robust e-commerce channel — companies must be skilled in determining which parts of the total value chain in the physical and online spaces are most suited for in-house innovation. At the same time, they must share other operational aspects with experienced partners that already have the infrastructure to interact efficiently with customers.

**Evidence from the grocery retail industry:** Traditional grocery retailers face significant challenges as they compete with online shopping channels. On the demand side, retailers need to reorder their capabilities to serve consumers who want multichannel approaches, including the ability to order online with in-store pickup and returns; large product inventories; and short lead times from order to fulfillment. On the supply side, retailers must address the difficulties of distributing a wide variety of food products via nontraditional store channels, while dealing with perishables, multiple temperature requirements, and expiration dates. And they have to navigate these issues within the constraints of a low-margin product environment that dictates tight cost controls.

In this set of circumstances, retailers may struggle to forge an effective make-or-buy strategy. If they decide on a make approach — that is, to control the new channels by integrating their operations in the retail business — the costs to expand the fulfillment network, cover logistics, and hire additional staff may be prohibitive. However, a buy strategy can be risky because reliance on third-party shippers gives the retailer less control over timeliness of deliveries, especially during busy seasons, and food freshness.

AmazonFresh, one of the commercial disruptors, is in the fortunate position of being able to work with third parties while still maintaining control. Amazon, which is likely to disrupt the entire retail food supply chain with its acquisition of Whole Foods, has partnerships with
wholesalers and distributors — for instance, leasing space in existing grocery warehouses instead of investing in building its own — but relies on its significant logistics capabilities in e-commerce to ensure that the shipments are scheduled and fulfilled reliably.

Traditional retailers must similarly assess their own capabilities to determine how they can create a distinctive business model that profitably navigates the commercial disruption. This will likely produce a hybrid make/buy strategy, which assumes that customers will always want to feel and examine certain items — perhaps fruit, meats, cheese, fish, and the like — in stores while preferring home delivery for dry goods and beverages, for example. But to outpace Amazon with in-store offerings, others must improve the consumer experience and provide a more dynamic environment that uses technological capabilities to guide shoppers to products that the retailer has learned they likely want to purchase. At the same time, traditional retailers must be willing to cannibalize their in-store business through logistics partnerships for shipping products directly to the consumer, a move that would significantly expand the retailer’s distribution network.
Conclusion

Clearly, the disruptions that companies in virtually every industry face today are forcing a reassessment of the value of make-or-buy strategies and are creating the dynamics for new types of partnerships between companies and suppliers that span the make-or-buy divide. New technology, product, and commercial upheavals are here to stay and will speed up in the short and long terms. As a result, companies will be dealing with a fresh set of make-or-buy decisions, which will be more complex than ever. Successful companies will be able to navigate these challenges by astutely forecasting how the competitive landscape will evolve over the next few years and by adopting the internal capabilities the organization needs to take full advantage of the appropriate approach — make, buy, or something in between.
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