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Industrial aftermarket services: Growing the core

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OEMs may find untapped goldmines in aftermarket services by strengthening their core business in parts, repair, and maintenance.

In many industrial sectors, original-equipment manufacturers (OEMs) face a challenging and uncertain future. In recent years, input prices have fallen and growth in emerging markets has slowed, decreasing new-equipment sales in industries ranging from oil and gas to agriculture to commercial aerospace. In response, CEOs at industrial OEMs are increasing their focus on aftermarket services—the provision of parts, repair, maintenance, and digital services for the equipment they sold. The appeal of this strategy is simple: services provide stable revenue—and often higher margins—than sales of new equipment. One McKinsey analysis across 30 industries showed that average earnings-before-interest-and-taxes (EBIT) margin for aftermarket services was 25 percent, compared to 10 percent for new equipment.

When exploring aftermarket value pools, industrial OEMs are often tempted to prioritize data-driven advanced services enabled by digital innovation and the Internet of Things (IoT). For instance, many hope to gain a competitive edge through e-commerce platforms and increased automation—digital strategies that are already common at B2C companies but less developed in B2B. OEMs may feel more pressure to develop digital capabilities than most B2B players because digital natives have recently entered the industrial aftermarket, offering parts and services at low prices.

Despite the rise of digital initiatives, core aftermarket services—the provision of parts, repair, and maintenance—are also critical to success. Under these circumstances, it can be difficult for OEMs to identify the best opportunities. To gain clarity and remain competitive, they must undertake a more detailed examination of aftermarket lifetime value—the total revenue they receive from servicing their installed base. This measure, which is typically calculated for each product line, provides a more comprehensive view of aftermarket value than commonly used metrics, such as service revenue captured per customer.

Companies that examine aftermarket lifetime value closely may find that certain services, including core offerings, contribute more to the bottom line than expected. For instance, one OEM closely examined aftermarket lifetime value and realized that 90 percent of its near-term growth would come from core services, even though initial estimates suggested that digital solutions would be the main driver.

Other OEMs that analyzed aftermarket lifetime value have identified specific weaknesses in their strategy, such as a low number of long-term service contracts, and launched improvement efforts. They have also been able to benchmark their performance against competitors and companies in other industries more accurately—an exercise that often prompts them to reassess their aftermarket strategy.

To help OEMs develop a strategy that suits their needs, this article discusses aftermarket lifetime value in detail. First, we examine the three factors that can influence value: product lifetime, lifetime penetration, and average-annual services revenue. We then discuss how companies can use aftermarket lifetime value to benchmark their

performance against their industry peers. Finally, we look at strategies for increasing aftermarket lifetime value that can help boost the core business.

What is aftermarket lifetime value?

Industrial OEMs are often in the best position to capture aftermarket value, since they understand their products better than third-party providers, have partnerships within their channels, and can collect proprietary data about their equipment from their large installed base. In many cases, however, OEMs lose ground to third-party parts manufacturers or independent service providers, who offer less expensive or used parts for aging equipment. In this competitive market, OEMs must identify potential areas for improvement by breaking aftermarket lifetime value into three elements and analyzing their performance on each one:

- *Product lifetime* refers to the period during which equipment is in use, which may be longer or shorter than the manufacturer specified. For instance, OEMs design gas turbines to last 30 years, but some customers have used them for up to 50 years, even though their performance may be suboptimal after the intended lifespan.

- *Lifetime penetration* refers to the percent of an OEM's installed base that it serves during a product's lifetime. Two factors determine lifetime penetration. The first is the attach rate—the percent of new equipment sold with warranty or with service contracts (for instance, a parts-supply contract or a repair and maintenance contract). Overall, the attach rate reflects how well an OEM is marketing its service capabilities at the beginning of a product's lifetime. The second factor influencing lifetime penetration is share of lifetime, which is the percent of a product's lifetime in which an OEM is the primary service provider. In many cases, industrial OEMs lose aftermarket business after a product's warranties and initial contracts expire. However, the most successful OEMs have found ways to extend their business beyond a product's first 10 to 15 years. For instance, some sell tailored, low-price contracts covering long-term maintenance.

- *Average annual services revenue* is the amount an OEM receives each year for each unit of equipment under service contract. It is expressed as percentage, making it possible to compare products with different selling prices. For instance, an OEM could sell a machine for $1 million and generate $100,000 in aftermarket revenues for each year under contract. In this case, the average annual services revenue would be 10 percent.

Aftermarket lifetime value is expressed as a percentage of a product's initial sales price. For example, a civilian helicopter has a lifetime of about 20 years. If the helicopter OEM received service revenues equal to half the product's original sales value over that period, the aftermarket lifetime value would be 50 percent. Since aftermarket lifetime value does not provide insight into profitability, OEMs must continue to examine the EBIT of aftermarket services to obtain a comprehensive view of their finances. Moreover, aftermarket lifetime value is undiscounted (for simplicity) and does not consider the "time value" of money.

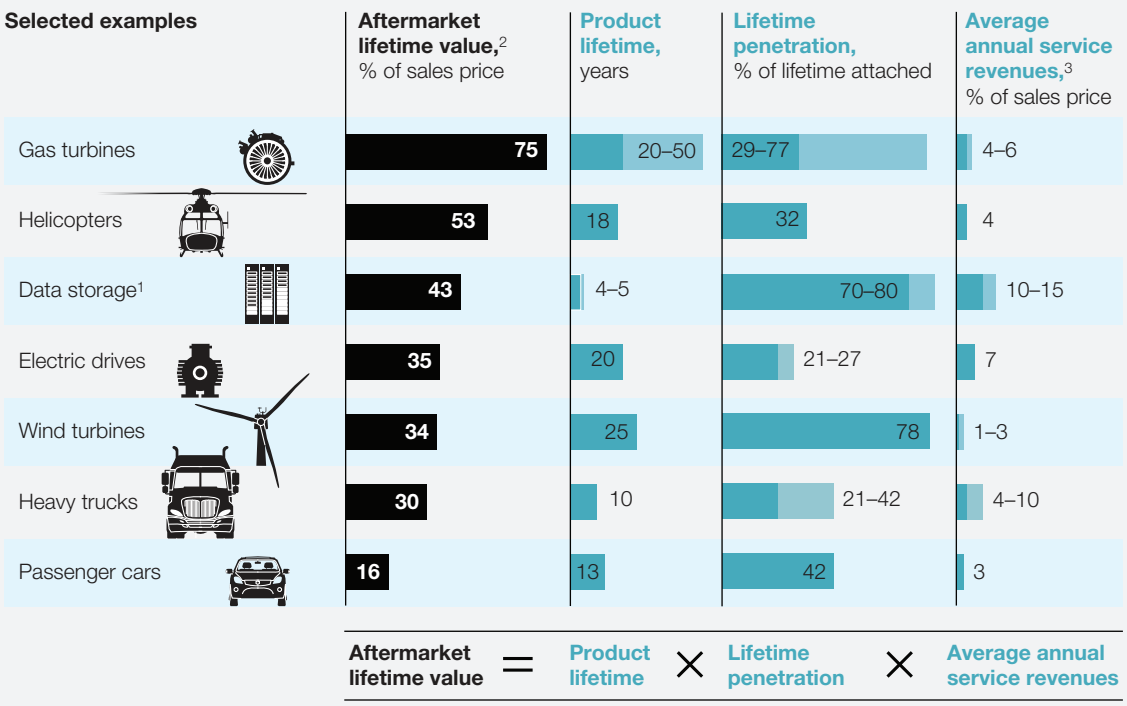
As noted earlier, several companies have already taken a detailed look at aftermarket lifetime value and used their insights to improve performance—often by enhancing core-service offerings. One power-equipment manufacturer achieved a 20 percent increase in aftermarket revenue and 30 percent growth in long-term contract penetration

by creating bundled offerings and developing new services. An industrial-machinery player improved its EBIT margin by 2 percentage points in one year by re-pricing 100,000 spare-parts SKUs. At a global mining and construction-equipment player, a refined go-to-market strategy led to 20 percent annual EBIT growth in their services business.

Benchmarking aftermarket performance

When benchmarking aftermarket performance, companies typically examine common financial metrics, including profitability and revenue. However, benchmark comparisons that rely on aftermarket lifetime value may provide additional insights that are not available with more traditional metrics. For instance, companies can benchmark themselves against players in other industries, even those where typical revenues and product lifetimes are very different, since aftermarket lifetime value is expressed as a percentage of a product's initial sales price. When we analyzed aftermarket lifetime value in more than 40 Fortune 500 companies, ranging from wind-turbine providers to heavy-duty truck manufacturers, we found striking variations in the results. In some industries, the aftermarket lifetime value

Exhibit 1 **Elements of aftermarket lifetime value may vary by industry.**



[1] Mainly reflects spare parts.
[2] Average value.
[3] Lifetime penetration is a function of attach rate and share of lifetime under OEM service. Typically most intra-industry variation is in lifetime penetration.

Source: McKinsey Aftermarket Lifetime Value Benchmarking database

of the aftermarket was almost equal to the price of the initial product; in other industries, players struggled to capture any aftermarket revenue. The highest industry aftermarket lifetime value was five times that of the lowest. The differences within industries were equally significant, with the best performers capturing three times the aftermarket lifetime value as the lowest performers. These findings suggest that many companies could learn from their peers or from the leaders in other industries that may be taking more innovative or aggressive approaches to aftermarket.

A caveat: Industry-specific constraints

While all OEMs have opportunities to improve, our analysis of 40 companies also showed that certain industry-specific constraints influence their products' aftermarket lifetime value. Consider two different sectors: heavy-duty trucks and gas turbines (Exhibit 1). In both industries, the equipment has high utilization, sometimes under tough operating conditions, requiring regular inspection, maintenance, and repair. But the 30 percent aftermarket lifetime value associated with heavy-duty trucks is much lower than the 75 percent for power-generation equipment for several reasons. First, the impact on lost revenue of a broken gas turbine is generally much higher than that of a broken truck. Power companies are thus more likely to pay a premium to guarantee prompt service and constant uptime. Second, truck parts are more readily available than power-grid components, and competition from third-party providers is higher, driving aftermarket prices down. Finally, the lifetime of a gas turbine is two to five times that of heavy-duty trucks. Companies that keep such differences in mind will not be confounded if their aftermarket lifetime value is much higher or lower than that of businesses in other industries.

How can OEMs expand aftermarket lifetime value?

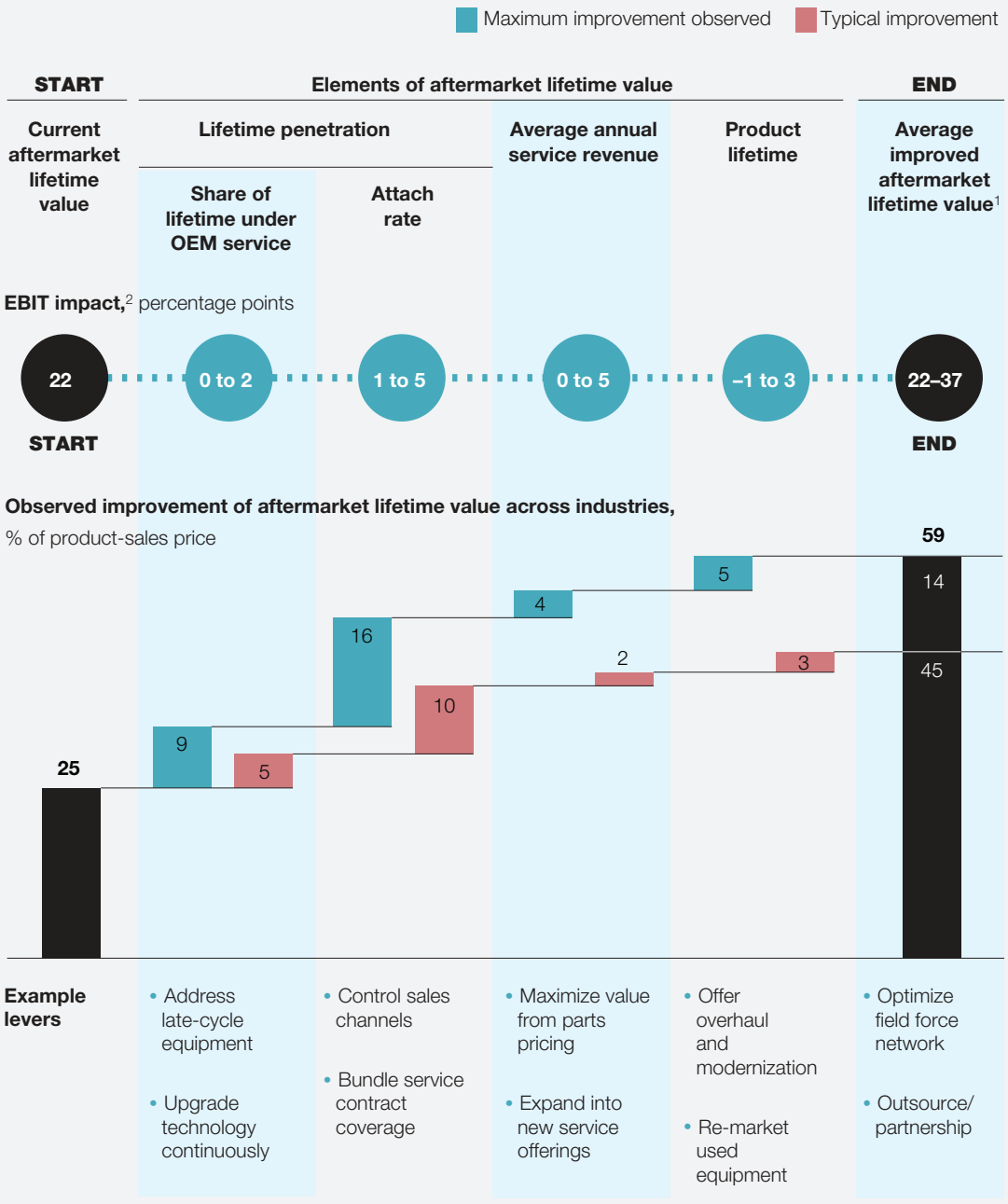
While OEMs cannot eliminate industry-specific constraints in the aftermarket, they can take steps to increase lifetime penetration, annual services revenue, and product lifetime.[1] The first step involves creating a comprehensive digital tool that models the installed base and analyzes individual pieces of equipment. One aircraft-equipment OEM designed such a tool to estimate aftermarket lifetime value for individual planes. After determining product lifetime, lifetime penetration, and average annual services revenue for individual elements of the installed base, OEMs can calculate aftermarket lifetime value and apply various improvement levers—there are usually about 40 to 60 possibilities, depending on the industry. Most of these levers focus on improving the core aftermarket business (Exhibit 2). For instance, OEMs could try to increase product lifetime by re-marketing used equipment, re-pricing spare parts more dynamically, or offering to overhaul and modernize a customer's existing equipment through hardware or software upgrades. OEMs must often implement multiple improvement levers simultaneously because they are interdependent. Some levers, such as those related to modernizing systems, may induce extra costs and reduce EBIT.

Typically, companies achieve the greatest impact from boosting lifetime penetration, especially if they can increase the number of contracts related to servicing aging equipment—an important source of revenue and one that is often overlooked. In our experience, OEMs that have applied appropriate levers have doubled their aftermarket lifetime value within three to five years, despite intense competition from third-party parts manufacturers and independent service providers. They also increased EBIT.

Given the number of possible levers that OEMs can apply to aftermarket lifetime value, it would be impractical to describe them all in detail. To appreciate the variety of strategies available, consider the following three examples, which focus

Exhibit 2

Companies can apply many levers to improve the elements of aftermarket lifetime value.



[1] In the number ranges shown for improvement in aftermarket lifetime value, the lowest number represents typical improvement, expressed in percentage points. The highest number represents the most improvement observed with each lever.
[2] The change in earnings before interest and taxes (EBIT) is the average achieved when companies apply various improvement levers to the elements of aftermarket lifetime value.

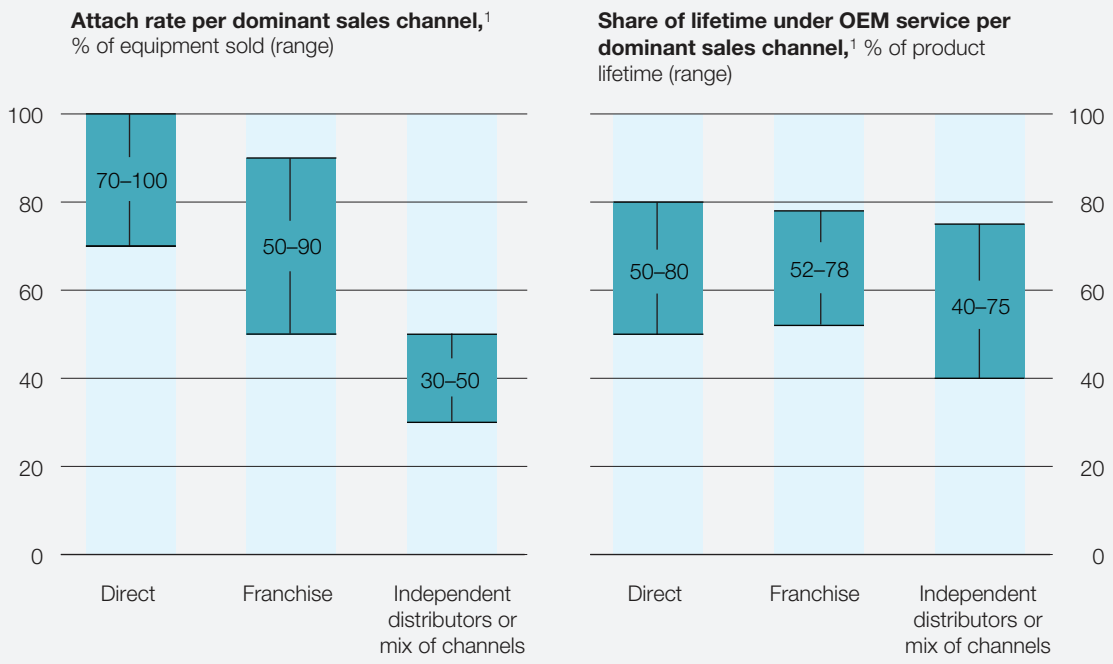
Source: McKinsey Aftermarket Lifetime Value Benchmarking database

on sales channels, customer segmentation, and spare-parts pricing.

Gaining more control over after-sales channels

To increase lifetime penetration, OEMs need to re-evaluate their current sales strategy, which often involves working with distributors. With a direct route, OEMs can track who owns the equipment, how they use it, and translate that into the right service offerings. This benefits both attach rate and lifetime share, the two elements of lifetime penetration. For instance, our analysis of more than 40 OEMs across ten industries revealed that those that used distributors or a mix of channels had attach rates ranging from about 30 to 50 percent, compared to 70 to 100 percent for those that worked directly with customers (Exhibit 3). (The ranges are so large because of variations among industries.) Similarly, share of lifetime ranged from about 40 to 75 percent for those who used distributors or a mix of channels, compared to about 50 to 80 percent for the direct channel. Overall, lifetime penetration was 1.5 to 2.0 times higher for companies that sold directly to customers or used franchise channels, compared to those that used distributors.

Exhibit 3 **Strong channel control significantly increases attach rate and share of lifetime.**



[1] The analysis included 10 industries.

Source: McKinsey Aftermarket Lifetime Value Benchmarking database

In some markets, such as those where OEMs are trying to reach numerous residential customers, distributors may be the only feasible sales-channel option. But this does not mean OEMs should give them complete freedom. Instead, they should set stringent rules that allow them to keep some control of their customer base.

Segmenting customers by need and securing their business with tailored contracts

By segmenting customers and creating tailored contracts for parts or maintenance, OEMs can effectively increase lifetime penetration for the entire installed base at each company that they serve. For example, customers with older equipment are more cost sensitive than those with new equipment, since repairs or parts may equal or exceed the value of a machine. To increase the share of lifetime at such customers, OEMs could offer refurbished parts or even provide a buy-back guarantee for spare parts.

As another example, consider how aircraft-engine and aircraft-equipment manufacturers can maximize lifetime penetration by offering long-term service contracts that guarantee engine uptime—a critical consideration for airlines. To generate customer interest in such contracts, manufacturers need to make tailored offerings. For instance, one large aircraft-equipment provider segmented its customers based on the age of their equipment and also considered other unique needs, such as the predictability of maintenance costs or the need to have aircraft available at all times. For customers with older aircraft operating short routes, it drafted contracts that offered low prices but also specified that the OEM would assume minimal risk. These strategies helped the aircraft-equipment provider increase its long-term service-contract penetration rate from about 15 to over 50 percent over five years.

In addition to maximizing lifetime penetration, the company also improved its cross-selling or upselling efforts, since it now had deeper insights about client needs.

Optimizing parts pricing

At most OEMs, parts sales typically provide gross margins of over 30 percent, compared with an average of 10 percent for maintenance services—and that means they often make the most substantial contribution to average annual services revenues. In consequence, many OEMs offer maintenance services at no profit to increase part sales. But these OEMs hesitate to ask for price increases for parts, since margins are already high and they fear that their customers will object. Some OEMs also struggle to set the right price for SKUs that are not sold frequently, since it is more difficult to estimate what customers are willing to pay for them. The benchmark analysis across ten industries showed that OEMs can typically improve EBIT margins by 3 to 10 percent by increasing prices, even when they are already high. They may score particularly high gains if they use a data-based approach to pricing their numerous long-tail products—parts for aged equipment, for which demand is low but constant.

The first step OEMs must take to transform their aftermarket business is to understand the elements of aftermarket lifetime value and create a tool to measure them. But that is just one part of a successful aftermarket transformation. At the organizational level, OEMs must also establish and measure key performance indicators for aftermarket sales, such as the attach rate for a particular product, and increase back-office support. Finally, companies must focus on execution, since even the best strategies may falter

without a careful plan to implement changes, monitor impact, and achieve high growth. Together, these tactics will turn aftermarket services into a major source of value. ■

[1] Product lifetime is generally more difficult to improve than lifetime penetration or annual services revenue.

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