

## SUPPLY CHAIN INSIGHTS

# SERVICE CALL

Engineering and manufacturing companies are increasing the scope and complexity of the services they offer. What does that mean for their supply chains?

In 1946, British agricultural engineer Harry Ferguson entered a partnership with the Standard Motor Company to produce a new model of tractor, the TE20. Over the next decade, more than 500,000 units of the “Little Grey Fergie” were manufactured and exported around the world. The low price, versatility and capability of the machine made it the perfect solution for farmers looking to take their first steps into mechanization.

For owners, simplicity and ease of maintenance were another key reason for the model’s enduring appeal. The TE20 was designed so that a single wrench could be used for all common maintenance tasks. That wrench even had inch markings along its shaft, so it could be dipped into the tractor’s tank as a fuel level gauge. The basic owner’s tool kit contained only two additional items: a grease gun and a socket wrench for the spark plugs.

Many thousands of Ferguson TE20s are still running today, mainly in the hands of enthusiasts. Few of them will have had any direct contact with their manufacturer since the day they left the



factory. But that “sell and forget” manufacturing model has largely been consigned to history. For modern manufacturers, the day a product passes into the hands of the user generally marks the beginning of a relationship, not the end of one.

### **Together for the long haul**

In recent years, the significance and value of services provided alongside engineered products has risen dramatically. There are many reasons for that shift. Products have become ever more complex and sophisticated, for example, making maintenance and support difficult even for owners who would like to do it themselves. Few of them do; faced with tight constraints on operating expenditure and shortages of skilled personnel, equipment owners often prefer to outsource such responsibilities to specialists.

For manufacturers, meanwhile, services offer the opportunity to increase profits and stabilize cash flow, turning “lumpy” one-off sales of high-value goods into long-term revenue streams. New technologies, especially the internet of things, are bringing down costs and enabling the development of new service offerings, such as remote monitoring and support of products in the field. Companies can use superior service offerings and support capabilities as defense against rivals and new market entrants, who may be able to offer products at lower prices.

Wider economic and social drivers are also encouraging companies to maintain close, long-term links with the things they make. Concern about the environmental impact of products means customers, regulators and other stakeholders are asking manufacturers to take more responsibility for their products throughout their lifecycle. And more manufacturers are embracing the principles of the “circular economy,” recognizing that, once products have fulfilled their usefulness for one customer, they can often be overhauled, upgraded or remanufactured to lead profitable second lives.

Ultimately, these trends are leading some customers to ask if they really need to own a product at all, given that its value to them comes from the utility it provides. And manufacturers are wondering if it makes sense to sell outright something that could go on making them money for years or decades.

### **The rise of Servitization**

Across sectors, companies have developed new business models and value propositions with these ideas at their heart. Aero-engine maker Rolls-Royce pioneered the concept with its “Power-by-the-Hour,” in which customers lease equipment under long-term contracts that provide availability and performance guarantees. Xerox offers similar arrangements for office printing and copying services. Truckmaker MAN will charge customers according to the distance vehicles are driven, while also providing tools to encourage safe, fuel-efficient driver behavior. GE has started to transform itself into a company that not only sells sophisticated machines but also solutions. To support its services, in 2016 it acquired ServiceMax, a cloud-based field service management company.

Delivering advanced services like these requires fundamental changes in a manufacturer’s operations, relationships and organizational structures. This process of transformation is known as servitization. Its opportunities, challenges and supply chain implications are the topic of a new white paper from DHL and the Advanced Services Group, part of Aston Business School in the U.K.

The paper’s authors emphasize that advanced services differ from simple ones (like field repair or the sale of spare parts) in some fundamental ways. In fact, manufacturers must alter their focus from a product-centric to a customer-centric perspective. This requires them to place an emphasis on finding innovative ways to help customers achieve their business goals, rather than on product features. Advanced services also mean manufacturers will bear more risk - they may be contractually responsible for the cost of customer downtime if their products fail, for example. The payoff is significant opportunities for additional revenue and competitive advantage.

### **Supply chain redesign**

Servitization has significant implications for the design and operation of the supply chain. Broadly, say the paper’s authors, this will involve deliberate streamlining in some areas and additional complexity in others. Manufacturers should seek to standardize their products as far as possible to reduce manufacturing costs, benefit from economies of scale, boost reliability and simplify maintenance and support activities. Service offerings, by contrast, should be highly customized and tailored as closely as possible to the end customer’s needs.

Service-based business models will place increased emphasis on the speed, agility and reliability of aftermarket supply chains, however. That’s going to require companies to think hard about the availability and distribution of spare parts and technical facilities. The white paper highlights a number of opportunities here, from co-locating service facilities with customer operations to the use of 3-D printing for the rapid, decentralized production of critical parts. Digital technologies will help companies balance inventory costs and service levels, for example through the use of conditional monitoring and advanced analytics techniques to predict demand. Workforce requirements are also likely to evolve, with the need for field service engineers with the skills to work closely alongside customers, and to identify new opportunities to solve problems or add value.

The report concludes with advice for organizations taking their first steps in the servitization journey. Transforming a manufacturing business to compete through advanced services is a long and complicated process. It is a transformation that many companies are set to undertake in years to come.

— **Jonathan Ward**