Getting smarter

How smart services are disrupting the manufacturing industry
On the heels of new, smart, sensor-enabled products connected to the Internet come "smart services." These business models are a threat to incumbent manufacturers.

Why?

Because, by using data generated by smart products, savvy new entrants can offer innovative, value-added services. Manufacturers need to understand these new business models and respond—quickly.
Smart products are yesterday’s news: Now it’s about smart services

What’s the most important raw material of the 21st century? Data. Transactional and customer data, to be sure, but now something more: the data generated by billions of smart products connected to the Internet.

Although smart products are revolutionizing the manufacturing industry, they are already in some respects yesterday’s news. It’s the data generated by those smart products that is becoming the disruptive element in the manufacturing industry—disruptive to the traditional business/payment/service model. Data from the Internet of Things can be analyzed, interpreted, correlated and supplemented and then refined into smart data. Such data then becomes the raw material from which innovative, “smart services” are created.

For example, the operators of diagnostic equipment might collect and analyze data from all the diagnostic devices that they are responsible for operating and use this data to create new services. Munich-based company Device Insight has developed a platform that collects, analyzes and visualizes data from machines and plants. More than 100 small and medium enterprises are already using the platform to access data produced by the intelligent machines owned by their clients.
Incumbents are at risk

Are manufacturers prepared for disruption in the manufacturing value chain—the move from a traditional product-centric business model to a service-centric one? In some isolated cases, the answer is yes. Consider Michelin, for example, which is designing, developing and marketing a new generation of mobility-enabled services targeted at business customers who manage fleets of vans, trucks and earthmoving equipment. These services will help manage areas such as fuel efficiency, tire management and vehicle productivity solutions. In effect, the company is transforming itself from selling products to selling solutions around mobility.\(^1\)

In general, however, many manufacturers appear unprepared for the disruption of smart services. According to an Accenture survey, 88 percent of manufacturing executives say that they still do not fully understand the underlying business models of the Internet of Things and its long-term implications for their industries.\(^2\) In fact, only 40 percent of companies indicated that they have developed a digital strategy for the Internet of Things.\(^3\)

In other cases, manufacturers may be moving too slowly. A recent Cisco study found that 86 percent of surveyed executives from industrial machine builders and end-user manufacturers said the transition from product-centric to service-oriented revenue models is a core part of their growth strategies. But only 29 percent of them believed that services would grow faster than products for their company.\(^4\)

With the rapid adoption of connected products and analytics capabilities to turn data into value, manufacturing customers will increasingly expect more value and innovation from digitized business models. New entrants, including those with no physical assets, are stepping in to compete.

For example, one service provider is taking on a long-established manufacturer by connecting the installed basis of products to the Internet, facilitating real-time monitoring. When you consider that more than half of revenues for some manufacturers come from maintenance, this competition represents a severe threat.
Whoever controls the smart data wins: Platforms and strategic ecosystems

The new digital business models in the world of smart services will cause existing control points to shift towards service platforms. As a result, providers of digital business models will attempt to gain control of the platforms to become the leading suppliers of the digital control points for smart services.

Moreover, these companies will seek to grow and increase scalability further by creating digital ecosystems. In other words, they will make their platforms available so that third parties can use them to develop their own Web-based business models, thus making the platforms even more widely adopted and unlocking new sources of revenue.

For example, the Connected Farm platform from Trimble provides a central location for agricultural growers to monitor their farm operations. The platform’s dashboard portal offers customizable widgets, including information about commodity prices, weather, Doppler radar, rainfall totals, irrigation monitoring, fleet locations, field operations, scouting maps and more.5

Connected Farm then enables other companies to leverage the power of the platform as part of a strategic ecosystem to provide their own relevant smart services to growers.

AGCO, a worldwide manufacturer and distributor of agricultural equipment and infrastructure, now provides wireless connectivity between their systems and the Connected Farm platform. The collaboration between Trimble and AGCO allows customers to access their AGCO machine data via AGCO’s telemetry product, AgCommand, as well as their agronomic data through AGCO’s VarioDoc task file management platform, from within the Connected Farm dashboard.6

The platform-based collaboration enhances smart services to customers, giving them easier access to their operational data for enhanced productivity, mobility and decision making. Strategic development with platforms like Connected Farm gives growers a single location from which to monitor their entire operation.

Controlling the data entry point to a platform is an important part of the new, smart services strategy. Any intermediary that is able to supply the customer and data interfaces of smart, networked products and services can occupy a key service control point. This could potentially relegate manufacturers from the position of leading suppliers to being just one among many interchangeable vendors.
Responding to the competitive threat of smart services

The first step for a company wanting to become a player in the smart services arena would be to make a strategic decision about the role or combination of roles it wants to play in the overall ecosystem. As shown in Figure 1, four options are available.

1. Owning the service platform itself.

2. Providing the enabling technologies such as connected devices, open application programming interfaces (APIs), analytics and software as a service.

3. Providing platform operations such as payments, logistics or smart data management.

4. Offering specific products or services on the platform such as financing, insurance or types of relevant and timely information.

FIGURE 1 | Strategic options for players in the smart services ecosystem
Making that decision will require asking some important strategic questions:

- What are my core competencies?
- What kinds of partnerships and alliances could I establish?
- Where would I generate the most value to my core?
- What kind of scale could I generate and then support?

A second step would be to make appropriate investments in intelligent infrastructure and applications. An intelligent infrastructure is one that can predict, learn, protect and self-heal across all layers: data center, network, workplace, security and operations. Intelligent applications would offer not just intelligent automation but also integrated analytics and self-governance.

Finally, carefully consider the talent and change management implications of smart services. The provision of smart services is likely to result in profound changes in people’s work, especially as machines and humans interact with more frequency. From a talent development perspective, as recent Accenture research has shown, the manufacturing industry as a whole is operating from a deficit perspective. More than 75 percent of the manufacturers in our survey reported a moderate to severe shortage of skilled resources. These include jobs such as platform developers and data scientists, among others.

Continuous effort and investment will be required if companies wish to play a leading role in actively shaping the impending changes caused by the blurred lines between the industrial and service sectors. Smart services are a big part of the future. Manufacturers need to be ready...and to help lead the way.