



EQUIPMENT

Top 5 issues in the equipment industry

Equipment companies used to compete mostly on product and price. But that was before customers could get whatever they needed with just a click of a button. With reduced differentiation and diminishing sales margins, equipment companies are shifting the focus beyond product and price to *what problems they can solve for their customers*. Today's equipment companies compete on service.

Which means that one of the biggest challenges equipment OEMs, dealers, rental, and service organizations face today is how to increase customer service levels. It's this push for finding new and better ways to serve customer needs that are at the core of many of the key issues that are impacting the equipment industry today.

Read on for a deep dive into the top issues facing the equipment industry and how addressing these issues can help companies better compete on customer service.

1. Shifting customer behavior

Some debate exists as to whether there's currently an overall trend of companies increasing or decreasing their capital expenditures. While companies can often benefit from the amortization and depreciation of equipment purchases, those companies might not be willing to make large investments when it's difficult to predict the long-term need for the equipment. Or they simply may not have the cash on hand. And when a company has only a short-term need for equipment, the operating expense of renting or leasing the equipment makes much more financial sense.

Regardless of which way capital expenditures are trending today, this trend can easily reverse course quickly and unexpectedly. Therefore, equipment companies should make sure they have the flexibility to meet customer needs via sales, rental, and lease—and not rely on just a single charging model. In fact, alternative charging models, such as output and **outcome-based billing** are becoming increasingly common. For instance, a customer might only pay for the number of hours a piece of equipment is in operation. In this scenario, the equipment company is providing the *equipment as a service*.

Output and outcome-based billing are made possible in large part by the existence of smart equipment. Smart sensors, meters, and other Internet of Things (IoT) devices embedded into or installed on equipment can send information back to the equipment provider about the usage and condition of the equipment. Of course, this information needn't remain in the exclusive domain of the equipment provider. Equipment companies can even utilize artificial intelligence (AI) to analyze this data to help customers optimize their usage of the equipment—perhaps to improve productivity or lower energy costs.

Including these sensors and devices on equipment can also be utilized as part of the **personalization** options equipment companies offer to customers. By being able to personalize products, equipment companies can significantly enhance the customer experience. In fact, customers' expectations to be able to customize consumer products are already **spilling over into the equipment market**.

What is customer service?

- Selling a complete solution, as opposed to just a product
- Supporting multiple charging models and output and outcome-based billing
- Offering personalization options
- Meeting customer delivery expectations
- Extending the lifespan of the equipment
- Minimizing equipment down time
- Getting a longer life out of the equipment
- Lowering repair costs
- Having the right aftermarket parts in the right place at the right time

In the not-too-distant-future, an organization that can't meet this expectation might lose customers. The extent to which an organization can offer personalization, however, largely depends on its ability to handle the overall complexity that personalization introduces—whether its validating configurations, calculating quotes, or sourcing components from the supply chain.

Personalization can also impact the delivery date of a product. Keeping customers informed and updated on delivery dates is another way to enhance the customer experience and even help build trust with customers. Today's customers expect full transparency into the status of their product orders—much like how you can track where your pizza delivery is. This expectation of transparency actually touches all aspects of customer interaction—especially service. Similar to how you can see how far away your Uber™ driver is, customers want to know how far away the service tech is.

2. Circular economy

The equipment industry has been finding ways to reuse products and components for years. Buy what initially started as a way to get longer life out of existing products and components and reduce manufacturing costs, has grown into a global business that Accenture projects to be a **\$4.5 trillion business by 2030**¹. In fact, the business practice has even earned its own economic model, called the “circular economy.”

Tessa Vlaanderen (founder and principal consultant of the Circular Futures consulting group and think tank) suggests that the circular economy can be broken down into five key “**recovery strategies**”:

- Direct reuse
- Repair
- Refurbishment
- Remanufacturing
- Recycling

For the equipment industry in particular, remanufacturing is the most popular recovery strategy. Vlaanderen explains this is because “only remanufacturing assures high quality and consistency... it maximizes value generation for consumer and business, and therefore of overall resource productivity.”

Not only do businesses and customers come out winners with longer product lifespans and reduced costs, so does the environment with reduced waste. Fewer products and components wind up in landfills and less raw resources and energy are needed in remanufacturing vs. manufacturing. Beyond meeting regulatory requirements, exercising environmental responsibility can be appealing to conscientious customers, thus making those companies that participate more attractive to do business with.

To reap the benefits of a circular economy strategy, an organization must first adjust its product development approach away from a linear economy—where a product or component’s end-of-life destination is the scrapheap. Instead, products and components need to be designed for eventual reuse.

¹ While defining the true value of the circular economy is difficult, Accenture estimated (in 2015) that “the circular economy could generate \$4.5 trillion of additional [global] economic output by 2030.”

Regulatory concerns

Serving a customer’s needs includes staying compliant with ever-evolving safety and environmental regulations. For companies that operate in multiple locations, it can be especially challenging to keep track of regulations that vary from country to country, or even within different regions of the same country. For instance, the Association of Equipment Manufacturers reports that Ontario, Canada is now enforcing a law that places “**significant obligations on companies to dispose of used tires throughout a product’s lifecycle.**” Not complying with regulations can result in fines and even work stoppage for equipment companies and their customers. The results can be disastrous to more than just the bottom line—customer trust can be eroded irrevocably.

Additionally, if a product or component is eventually destined for the aftermarket, the needs and constraints of the service organizations need to be factored in as well.

This all involves far more than just the R&D department. A circular economy strategy needs to constitute collaboration and visibility that stretches from product lifecycle management to supply chain sourcing to manufacturing to sales and marketing to service to aftermarket parts and more. The right global collaboration and visibility capabilities can make up-to-date and accurate information available throughout the entire value chain. This level of partnership within the organization and externally with suppliers, customers, and the supply chain can fuel innovation and provide a critical feedback loop that tells you whether you’re staying on plan and alerts you to emerging challenges.

3. Complex supply chain

One of the most challenging aspects of the equipment industry is a multi-echelon supply chain that touches OEMs, distributors, rental, sales, aftermarket, and service.

Manufacturers in particular, not only must source raw materials for configure-to-order (CTO), manufacture-to-order (MTO), and assembly-to-order (ATO) operations, they also need to ensure the right materials are in the right place at the right time across multiple co-manufacturers.

And virtually all sectors of the equipment industry—whether it's manufacturing, dealers, rental, aftermarket, or service—must manage both forward and reverse logistics. Components for repair and remanufacture, such as engine “cores,” are heading out, while replacement components are coming in. Making things even more complex, these components are made up of slow-moving, high-value components (also known as “long tail” parts) and fast-moving, low-value components—both with very intermittent demand patterns. On top of this, rental companies must also contend with equipment coming off rental contracts that then either re-enters the supply chain for reuse as a whole piece of equipment or is earmarked, either in parts or whole, for remanufacture or reuse.

Additionally, increased customer servitization expectations mean there's greater pressure on any organization that provides service to ensure it has the necessary maintenance, repair, and overhaul (MRO) inventory on hand to meet demand. This is difficult enough when trying to gain visibility and control of materials internally; it becomes much more difficult when so much of the supply chain data exists outside of an organization's four walls.

On top of that, equipment companies also need to be able to perform accurate forecasting and demand planning. To do all of this—CTO, MTO, and ATO manufacturing, forward and reverse logistics, MRO needs, and more—equipment companies need end-to-end supply chain visibility into raw materials and aftermarket components, as well as the collaboration tools to communicate effectively and efficiently with suppliers. A functionally integrated supply chain ecosystem allows organizations to achieve favorable prices and meet customer delivery demands.

Dynamic workforce

Today's workforce wants user-friendly solutions, embedded analytics, mobile access, and artificial intelligence that can enable them to work in the ways they want to work and help them be more effective at their jobs. Not only do these types of tools help equipment companies maximize human potential, they also have the additional benefit of improving recruitment and retention to help sidestep the skills gap—a gap that's increasing as baby boomers leave the workforce. With a shrinking talent pool, equipment companies need to focus more on skill development and career planning. The quality of service a company provides its customers is largely dependent on the skills of its workforce.

4. Lifecycle profitability

One of the equipment industry's responses to increasingly tighter margins has been to seek out additional income from aftermarket services, such as maintenance, repair, parts, and remanufacturing. According to McKinsey, “**the appeal of this strategy is simple: services provide stable revenue—and often higher margins—than sales of new equipment.**” In fact, McKinsey reports that aftermarket services bring in 25% earnings-before-interest-and-taxes (EBIT), as opposed to just 10% for new equipment sales.

Every event and transaction that takes place between the equipment company and the customer on a piece of equipment—from initial quote to delivery to service to scrap—contribute to estimating the equipment's lifecycle profitability. Managing and making sense of all of this data can be challenging—especially when factoring components that can potentially go through several rounds of reuse. Calculating equipment lifecycle profitability is a predictive process that utilizes **AI and machine learning** to analyze historical data from similar equipment, other customers, and forecasting models.

When an equipment company has the ability to do this accurately, it can evaluate the value of each potential income source. Companies can even use this information to look for new income opportunities, such as offering digital services to its customers.

5. Service innovation

While aftermarket service might be more profitable than sales, it's important to note that different levels of maintenance offer different levels of benefits to customers, along with different levels of profits margins for the equipment companies.

The most basic level of service is *corrective maintenance*—if it breaks, fix it. The next step up is *preventative maintenance*, where historical knowledge and basic engineering principles dictate when maintenance intervals are scheduled for components and systems.

After that comes *condition-based maintenance*, which uses smart sensors and other feedback technologies to monitor the health of equipment. Used correctly, condition-based maintenance can catch small problems before they become much bigger problems.

If a service organization were to analyze the historical data coming from the smart sensors in multiple, similar pieces of equipment, the organization could take service even a step farther with *predictive maintenance*. This method analyzes the actual performance and working environment of equipment over time and applies forecasting techniques to the data to predict outcomes. The goal here is to try to stop problems before they become problems.

The challenge with predictive maintenance is that it's common for organizations to not act on the predictive maintenance information until the equipment actually fails. According to *Plant Engineering* magazine, **“prescriptive maintenance may only increase the precision and frequency of the information... therefore, until the organization is prepared to act on alert information in a timely manner, little benefit will be realized.”**

But what if in addition to predicting a failure, the AI also prescribed a solution? Perhaps, with a specific action plan, an organization might be more likely to react to this information in a timely manner. This is what is called *prescriptive maintenance* (or *Rx maintenance*). Here is how *Smart Industry* explains it: **“Rx maintenance is unique in that instead of just predicting impending failure, as predictive maintenance (PdM) does, it strives to produce outcome-focused recommendations for operations and maintenance from the Rx analytics.”**

The goal for all of these approaches to is optimize the performance of the equipment by improving reliability, extending the life of the equipment, and lowering repair costs. Each maintenance step mentioned here builds on top of the ones below it. Each step requires an infrastructure investment—especially prescriptive maintenance's need for advanced AI and machine learning capabilities. But the further along this maintenance spectrum a service organization is willing to go, the greater the potential benefits for both the organization and its customers.

Digital transformation

Many equipment companies don't have the business systems, automations, workflows, and processes in place to support these new ways of doing business. Business systems that were implemented years (and often decades) ago can no longer support today's complex demands.

Whether its keeping up with shifting customer behavior, reaping the benefits of the circular economy, managing a complex supply chain, improving lifecycle profitability, or innovating service, these demands all rely on utilizing modern technology. It's this digital transformation of the way the equipment industry operates that can open the door to differentiation—allowing equipment companies to rethink approaches and create new data-driven ways to deliver and elevate services and the customer experience.

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