Ken Koenemann   *February 16, 2021*

Before COVID-19, manufacturers were already struggling with a dip in productivity. As COVID-19 worsened this trend, it has become particularly clear that digital technology needs to be used to offset manufacturing productivity trends.

Despite a [dramatic dip and resurgence](#) in productivity and output caused by the COVID-19 pandemic, productivity in U.S. manufacturing has essentially [flatlined for years](#). As manufacturers reset and plan for what comes next in 2021 and beyond, it is unlikely that productivity-related trends of recent years will suddenly shift for the better.

Before the pandemic, low national unemployment levels made finding and hiring good people challenging. Yet, while nationwide unemployment rates have risen significantly, unusual circumstances in the job marketplace still complicate staffing and manufacturers' ability to spur productivity. For example, extended unemployment benefits keep people out of the job market while manufacturers struggle with higher turnover and absenteeism related to health- and family-related challenges. Another harsh reality of 2021 is that it remains challenging to find strong candidates at all levels, especially for leadership positions.

Based on current economic projections, it should only be a matter of time before economic growth accelerates again. When it does, staffing will remain a persistent challenge. That means anything

manufacturers can do to raise productivity and generate additional capacity could pay big dividends. Given the circumstances, digital solutions provide some of the best opportunities for making gains. And manufacturers who have not fully embraced digital technology potentially stand to gain the most. Below are three examples that show how embracing digital technology can move the productivity needle in the right direction.

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1. Streamlining onboarding and training

A digital approach can start helping with productivity as soon as new employees step through the door or sit down for work on their first day. For example, self-paced digital training modules can help with more efficient onboarding. They provide a way for new employees to learn at their own pace while reducing reliance on highly skilled employees for training. Manufacturers can also use digital training modules to cross-train existing staff, increasing team flexibility.

Digital solution providers have also reimagined how to monitor tasks to provide more timely and helpful feedback. Just consider solutions that employ a combination of video and artificial intelligence (AI) to provide new and existing employees real-time feedback. These types of solutions can not only accelerate training, but they help improve quality and productivity.

2. Tracking productivity and spotting performance issues

Analytics has made it easier than ever for manufacturers to understand what's happening in their operations, including tracking productivity over time. With analytics, manufacturers can efficiently monitor key performance indicators (KPIs) and enable faster problem solving to maximize operational efficiency and productivity. Rather than relying on gut instinct or past experience, analytics provide a way to look for patterns and pinpoint issues or trends that are most likely contributing to productivity declines. Some solutions also support root cause analysis to identify why issues happened in the first place.

One building material company that was struggling to keep machines running continuously throughout the week used an analytics solution to improve the response rates of operators. Real-time alerts on critical operations metrics enable operators to immediately act on problems to keep pace with company goals.

As manufacturers build expertise with analytics, they can use more advanced modeling and simulation techniques to understand the potential impact of a new change or solution before committing to it. Consider a large energy infrastructure organization that created a digital twin of its

operation and [supply chain](). The models allow the organization to simulate equipment changes and understand the implications on material flow, cycle times, and lead times.

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3. Process automation

In the face of labor shortages and employees who are already stretched thin, even small process improvements can make a big difference in output. For processes that involve many defined steps, [automation]() helps reduce burdens on operators and managers. For example, industrial internet of things (IIoT) technology can monitor steps in important workflows and provide the appropriate personnel with timely alerts for any issues that arise.

But the value goes beyond faster response times to issues; the automated tracking can also reduce or eliminate manual documentation requirements. Materials handling is another excellent use case for automation. Many distribution companies are starting to rely on robots to move materials to packing stations, reducing the need for picking resources.

First Things First: Foundational Essentials

The above examples merely scratch the surface of what's possible using digital technology to boost productivity. While digital technology can be a powerful tool in increasing productivity, it's not foolproof.

Given budget and resource considerations, a digital strategy isn't something to try to implement overnight. It's better to proceed using a pragmatic approach. A calculated strategy built on clear [business]() objectives that relies on KPIs is critical to near- and long-term success. A key initial step is establishing a digital thread by integrating and consolidating critical data from across business and operations systems and the factory floor.

Early on, analytics and the ability to easily and efficiently track KPIs are key. Using analytics to explore data helps manufacturers make more informed decisions about ongoing challenges as well as the potential of new digital solutions to help improve productivity. And KPI management software can help keep everyone focused on the right data and goals. Over time, a good strategy will not only lead to higher productivity but also underpin flexible operations that are more ready for the frequent surprises that pop up in modern manufacturing.

Does your organization face productivity challenges when it comes to manufacturing operations?

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