

The Common Sense Guide to Digital Transformation

Tactics, tips and considerations to move your digital strategy into operation.

THE COMMON SENSE
GUIDE TO DIGITAL
TRANSFORMATION

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Over the past few years, “digital transformation” has served as a rallying cry for smart manufacturing. The term is used to describe the journey through a whole host of operational changes—from data collection and analytics to automation and machine learning—all with the goal of improving performance, reducing waste, and achieving more efficient and agile manufacturing.

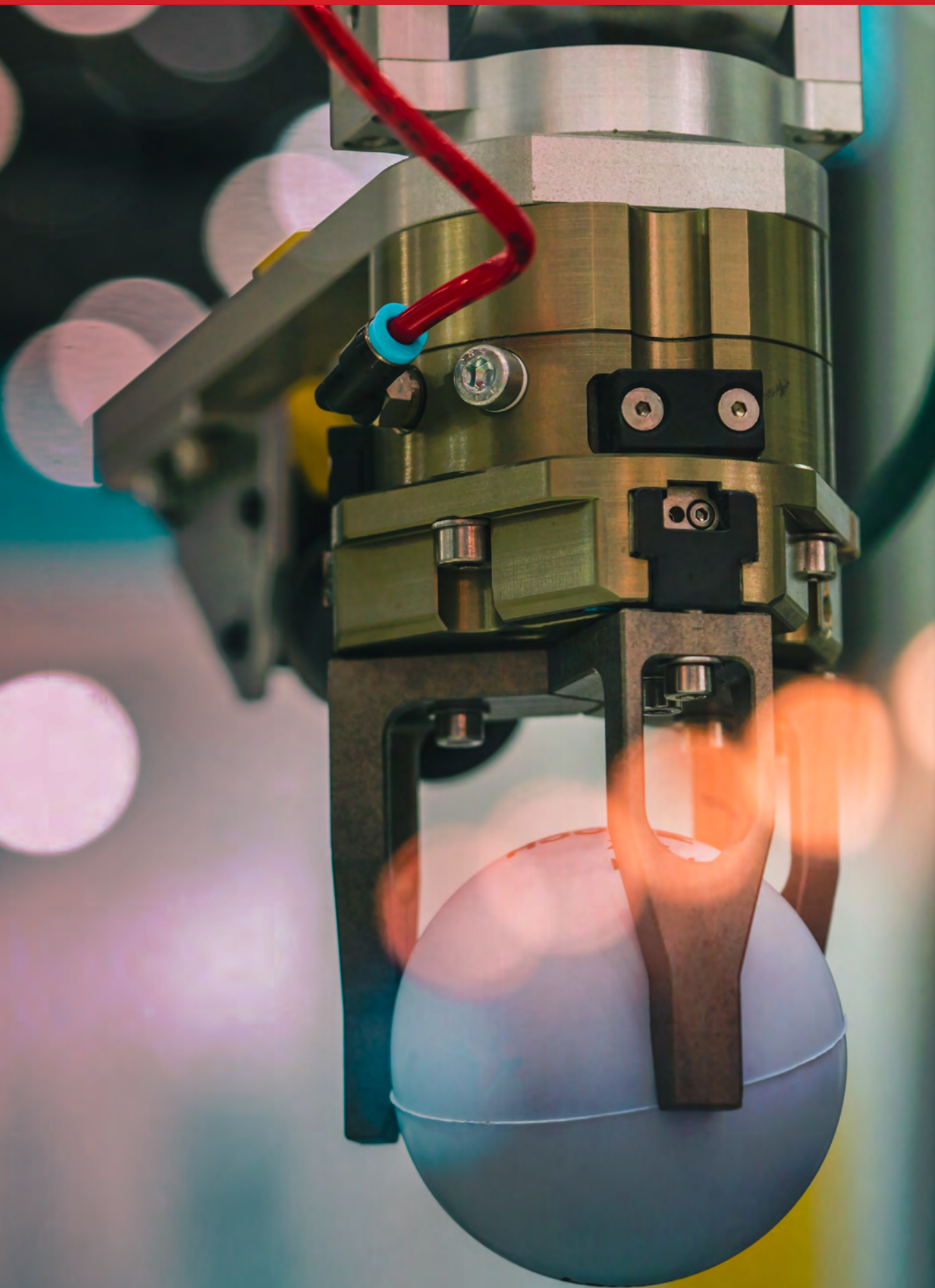
This is a vital process in the industry today—over and over again, we find that manufacturers who have successfully navigated these transformations are stronger, more flexible and better positioned to take on the future.

But how does it actually work? Where do you begin? How can manufacturers implement these changes without disrupting their core businesses?

This “Common Sense Guide to Digital Transformation” seeks to answer these questions.

The articles and resources in this collection walk through the digital transformation from an operational perspective, skipping the hype and hope of the concept to focus on real actions, real processes and immediately implementable tactics manufacturers can take to bring their transformational efforts to life.

In no small way, the future of the industry depends on digital transformation. Our aim here is to give you the tools you need to succeed in your journey through it.



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PUT COMMON SENSE FIRST IN YOUR DIGITAL TRANSFORMATION IN MANUFACTURING

BY TESS CLARENDON, CONTRIBUTOR

For manufacturers, simplifying your business process and streamlining your organization is a constant concern. Whether you're just starting out or are actively growing, making improvements to challenges like supply chain visibility, production, and product delivery can put you on a path to greater success.

The term "digital transformation" is often used to emphasize the importance of keeping pace in a competitive market, but what does this philosophy actually look like? How can it enable manufactures to do a better job of navigating supply chain disruptions? How can technology help?

After decades in operation, some companies may be reluctant to investigate—and invest in—new technologies, but the benefits far outweigh any temporary frustrations linked to making such changes. Here's a look at some of the ways that digital transformation can revolutionize your business as well as the tools that can get you there.

IMPROVE PRODUCTIVITY AND REDUCE PRODUCTION COSTS

Automation is all around us, from the chatbots that pre-screen customer service queries to the software that populates a form with your zip code when you're placing an order online. On the shop floor, automated tools can help manufacturers improve productivity and minimize production costs. With the right technology in place, you can save time and money, bringing that same efficiency that customers know online straight to your production facility.

Andrew Robling interviewed by [automation.com](https://www.automation.com) says, "At Epicor, we believe that companies that adopt digitization strategies will not only continue to compete in today's



global marketplace but will take market share away from their competitors by reducing costs, boosting customer satisfaction and ultimately increasing profits."

AUTOMATION HAS IMMENSE VALUE FOR SUPPLY CHAIN MANAGEMENT.

Take data. Using automation to collect and process data is vital because there is just so much of it. Shop floor yield is directly linked to actionable data, and in order to take control of yours, you'll need software that delivers accurate information on everything from production output to labor costs, all in real time. This reduces the likelihood of mistakes tied to manual data entry, and allows for easy online data retrieval. They say that knowledge is power, and the more you know about your operations, the better equipped you'll be to improve your overall performance.

Automation has immense value for supply chain management as well. Automating your supply chain can improve the speed and accuracy of your operations. That's important, because customers have come to expect quick deliveries and a simplified returns process. Providing a positive experience doesn't just increase the chances that they'll become repeat, loyal customers, but it can also boost their affinity with your brand.

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SECURE YOUR DATA AND SHARE IT SAFELY

Used for such purposes as monitoring business operations, managing inventory, and storing sensitive data to facilitate secure sharing within your organization, cloud computing proves to be invaluable to manufacturers.

"If you look at what market experts say," Robling believes, "there's a belief in the market that everyone will be on the cloud. It's just a question of how quickly organizations are going to migrate." Robling believes that most companies will eventually "end up leveraging the cloud as part of their business processes."

THERE'S A BELIEF IN THE MARKET THAT EVERYONE WILL BE ON THE CLOUD.



Why make the switch? According to an article [in Forbes](#), "For most organizations, the decision to foray into digital transformation is primarily driven by increased competitive pressures or growth opportunities." Cloud computing can give businesses a leg up and help them increase revenue. When you're working with an Enterprise Resource Planning (ERP) solution that's on the cloud, you can assess the effectiveness of shop floor activities in real time and make more informed decisions related to your business. This, in turn, lightens the load currently carried by your IT team, freeing them up to address more complex issues.

Robling says that in the near future, "We're going to see more cloud-based technologies and simplified ERP. For example, 15 to 20 years ago when companies would implement ERP, they used to have to send folks to a week of training to learn about ERP. But that's not how people prefer to learn now." He adds that we're now seeing a more streamlined user experience.

For companies that aren't quite ready to move to the cloud, seeking out an ERP that offers both cloud-based and on-premises solutions is a good option. This approach gives you the luxury of moving at your own pace.

OPTIMIZE YOUR BUSINESS PROCESS AND MACHINES

There's another way that digital transformation can positively impact your business, and that's through the use of the Internet of Things (IoT) and artificial intelligence (AI). These technologies have the capability to help you optimize your sales order process; gain end-to-end visibility into your supply chain, production, and delivery; and identify issues with machines that may require attention. All of this creates an opportunity to maximize your facility's overall performance.

For example, simply monitoring your machines using a smart device can reveal the factors that are slowing down production. Acting on this information by alleviating bottlenecks can have an immediate impact on overall performance. You might choose to monitor the condition of a machine, including factors like temperature, pressure, and vibration level. You can share the resulting information with your machine operator and lead supervisor, who can use it to evaluate the equipment and determine whether it might need calibration or maintenance.

No manufacturer wants to be worrying about unexpected issues with their machines, but given that such a situation could impede production efficacy, these concerns remain top of mind. With IoT, companies can connect sensors to their equipment to glean information about machine operations in real time. If a sensor indicates a possible maintenance issue, you can address it before a breakdown happens, thus avoiding production delays, missed shipments, and additional costs.

YOU'RE DOING MORE WITH LESS, AND INCREASING YOUR PRODUCTIVITY.

What's the best way to get started with IoT? In a [conversation published in trade magazine the Manufacturer](#), Michael Gleaves, deputy director with UK-based data analytics research facility The Hartree Centre, recommends starting by "attaching simple

and affordable sensors to machines.” Once those data streams are in place, he says, manufacturers can start logging patterns in machine performance and use that information to optimize their equipment.

And as you explore IoT, be sure to consider AI as well. The two can work in tandem to alert you to potential problems and provide viable solutions, like scheduling maintenance or turning off a machine long enough to cool it down. “You’re doing more with less, and increasing your productivity,” Robling explains.

Because IoT and AI data flows in and out of your ERP system, you’ll be able to consolidate the information that’s most crucial to your production facility’s performance. “ERP, at its core, is there to give you more visibility across your entire business around how things are functioning, what the profitability is to produce an item, how much labor it involves, what the schedule is like, etc.,” Robling says. “Digital transformation is there to optimize and make those processes even better, so you can experience growth, profitability, and greater efficiency.”

MORE TECH IS COMING

Robling says we’re likely to see far more of “embedded technologies” like IoT and AI that enable businesses to better monitor their machines. She adds that augmented reality may be used in the near future as well, particularly to visualize the shop floor through an ERP system. A customer once put it to Robling like this: “You invest a lot in your employees, you give them reviews, and you set expectations for them about what you’d like them to work on and how you’d like them to perform. If you think about IoT, it does the same thing for machines.”

Digital transformation is somewhat of a catch-all term, and it can mean different things to different businesses, but when you break it down, it’s simply about common sense. By automating and optimizing the tools your company relies on, you become more efficient — and efficiency is the most direct path to success.

To learn more about how you can employ digital strategies to streamline operations, get our free eBook, [“Push Past Common Manufacturing Challenges.”](#) ●



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DON'T RUSH DIGITAL TRANSFORMATION: 8 CONSIDERATIONS FOR A NEW ERA

The new normal will be much more practical, realistic and focused on impact.

BY STEPHAN LIOZU

The current crisis has severely disrupted the business world. Entire sectors have shut down, and many companies are implementing partial sleep mode to focus on customer-critical operations and business continuity plans.

Digital transformation programs are not immune to these abrupt changes. While consultants are rejoicing about the increased sense of urgency for firms to get on board the digital transformation train, I posit it is going to take some time for them to do, and it will require a different type of digital transformation, especially in the industrial world.

This is what I call digital transformation 2.0. The new normal will be much more practical, realistic, and focused on impact. This is what was lacking in digital transformation 1.0, especially considering the poor track record of success.

Here are eight considerations for manufacturing leaders to think about as they redesign their digital programs:

Focus, focus and focus: Focus is the name of the game. Many digital transformations were well-financed without a clear pipeline of innovation. As a result, the digital teams were “chasing” opportunities and creating busy work that brought little value. This is a typical case of capital chasing opportunities, as we witnessed during the internet bubble of the earlier 2000’s. In the past three to five years, industrial firms poured billions in digital transformations trying to strike gold. For many of them, the lack of focus led to many failures and false starts. The next three to five years will be about focus, impact, and profitable growth.

Keep it simple, stupid: Global digital transformations can no longer be complex organisms with multiple entities, dozens of workstreams, and hundreds of projects running in parallel. Many of them are set up as parallel organizations suffering from lack of leadership, of accountability, and a certain level of disconnect with the core business. The future is more about agility, fluidity, and clear accountability to business

stakeholders. Removing that unnecessary complexity is a necessary step to match the level of market dynamism.

Forget about legacy versus digital business: Digital transformations need to focus on true innovation around the core business and generate growth for that core market verticals. This is a hard lesson to learn, but a necessary one. The implication of this is a greater level of integration and coordination between the core legacy entities and the digital business. There cannot be that great divide between the two organizations. It is no longer us versus them.

Prioritize better and faster: The times for “me-too” commodity digital projects, pet projects, theoretical ideas, unrealistic futuristic dreams, and “boil-the-ocean” programs are gone. These opportunities need to be killed before they enter the innovation pipeline. They create complexity and burn cash resources.

THE DIGITAL FUTURE IS ABOUT TRUE INNOVATION AND EXECUTABLE OPPORTUNITIES.

The proof is in the pudding! We must go back to the basics and focus on customer pains, customer problems, true differentiation, willingness-to-pay, and pricing power. This implies that digital teams must do their homework early in the process and kill projects if they do not meet the impact requirements.

Address the internal typical organizational bottlenecks: Some of the behaviors we see in digital transformation teams must be addressed and fixed as soon as possible. These behaviors include: “We should go at it alone”, not-invented here, “I know better than the best in the business”, “we can build this software ourselves”. Enough already with these! The wheel has already been invented. IoT has been around for 20 years.

The focus on speed and impact requires partnership, open-innovation, and working with commercial partners.

Digital opportunities start with new business models: True digital innovations must be thought of as new business models. They should not be business-as-usual. They should focus on the attractiveness, feasibility, and viability of the opportunities. A digital transformation might include a dozen new business models that need to be managed as a dynamic portfolio. That also implies a requirement to look at commonalities among business models and approach the portfolio with a platform mindset.

Monetize and leverage data: Successful digital transformation are first and foremost data transformation focused on customers and ecosystems. The management and leveraging of data cannot be an afterthought or part of the 28 other projects running as part of digital transformations. Do you have a robust and long-term data strategy? Are your data projects well financed? The future of digital is to extract, integrate, and mine data. This is the core of your innovation pipeline. Along the same line, monetizing and extracting the value of your data is equally essential. This is often overlooked.

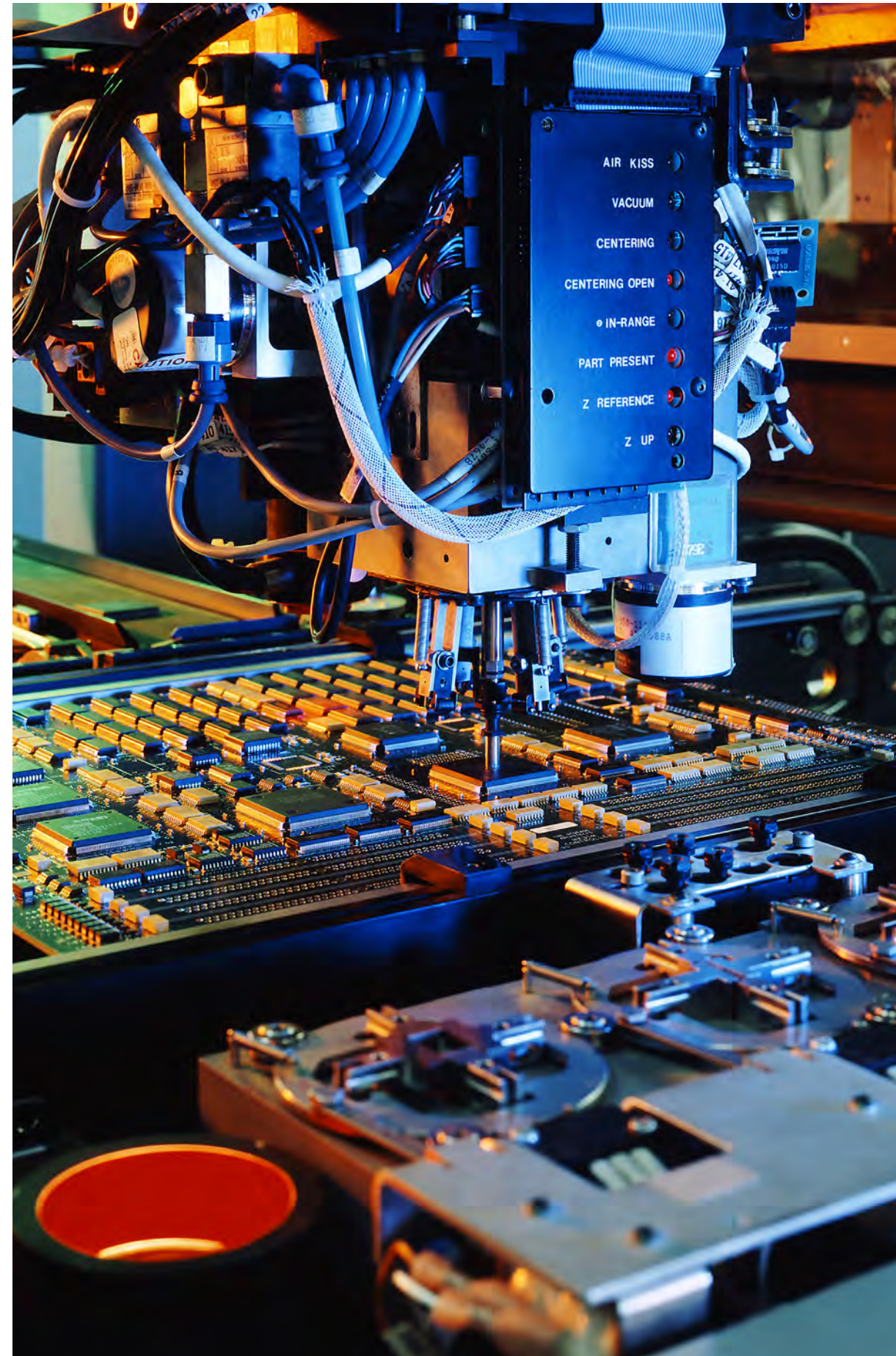
Solve your internal inefficiencies right now: This 2020 COVID crisis is a stress test of your internal digital capabilities. It is the opportunity to test your communication capabilities, your IT infrastructure, your collaboration tools, and your bandwidth. But it is also a test of your digital mindset among IT and engineering teams.

YOUR ABILITY TO DRIVE INTERNAL DIGITAL TRANSFORMATIONS IS A MAKE OR BREAK POINT IN YOUR OVERALL DIGITAL TRANSFORMATION.

Take a realistic look at how you are doing in this crisis and make sure you modify your road map accordingly.

This crisis offers new beginnings and opportunities. Digital is not dead. It is resetting like many other processes and functions in business. Digital transformation 2.0 is focused, less complex, customer-centric, profitable, differentiated, and grounded in data monetization. Digital transformation 1.0 is dead. Long live digital transformation 2.0! ●

Stephan M. Liozu, Ph.D. is chief value officer at Thales Group (www.thalesgroup.com), research fellow at Case Western Reserve University, and founder of [Value Innoruption Advisors](#), a consulting boutique specializing in value-based pricing, digital pricing, and industrial pricing. Stephan wrote nine pricing books and is a frequent keynote speaker at industrial and digital conferences.



STOP SABOTAGING DIGITAL TRANSFORMATION. YOUR FUTURE SUCCESS MAY DEPEND ON IT!

Study shows internal actions, not technology inadequacies, stand in the way of manufacturing reaping digitalization rewards.

BY PETER FRETTY

Manufacturers have reached a bit of a breaking point. What has been the norm for many years is not going to work moving forward. Businesses need to find better ways to operate – capitalizing on what technology and access to data can offer.

Is the fact that manufacturers need to adjust to the new normal a direct result of COVID-19? Absolutely. However, the need to better utilize digital technologies has been lurking in the wings for some time now.

According to Accenture Industry X.0's Global Lead Nigel Stacey, as manufacturers navigate today's lingering uncertainty, there's never a better time to collaborate and drive digital transformation. However, collaboration has been illusive as manufacturers have pursued digitalization initiatives. According to the results of a recent Accenture report, Together Makes Better, 75 percent of executives say their departments compete rather than collaborate on digitization. Unfortunately, competition has negative consequences including missing opportunities for growth and greater performance.

As the stats show, embracing competition rather than collaboration has resulted in:

- Increased costs by almost 6 percent;
- Realizing a 6 percent boost in revenues vs. an anticipated 11.3 percent; and
- A whopping 64% failing to see any revenue growth as a result of their investments.



As bad as the pandemic has been, it is creating a watershed moment where companies are strategically looking at where they stand, explains Stacey. "Do I need to accelerate? Do I need to move forward with perhaps things that I was thinking about doing six months ago? Three months ago? Do I need to bring those forward?" he says. "Whenever companies go through that thought process, if it results in the answer being yes, it's a positive because it's positive for the company, employees, shareholders and society at large."

STOP COMPETING AND START COLLABORATING

What's it going to take for manufacturers to get on the right path to actually collaborate? Stacey offers a few recommendations:

Establish a Clear Vision. The first thing that companies need to do – and it needs to come from the top – is establish a vision for digital transformation, with a clearly articulated strategy aligned across all functions. It needs to inspire every function, leader and C-suite executive in a way they can understand the role they play in achieving success.

Set and Communicate Expectations. The second critical thing is setting an expectation around behavior, including the leader's ability to role model those behaviors, and not just for a day or two. "It takes a very specific type of leader," he says. "You've got the energy and the drive to make sure that you push the company forward with the staying power and inspiration to get keep people onboard. Clearly assigning a single point of contact for senior leader who has all of those traits and can bring organizations

together while also putting the difficult conversations on the table. Having this leader is key to breaking down silos and barriers to collaborate and derive a sense of purpose, community and longing is vital."

Embrace a Structure. As with any wide sweeping initiative, digital transformation needs a governance structure including reward mechanisms to support the vision and strategy. "If you don't support the behaviors you expect to see, things can start to break down," he says. "Getting the governance model right across the functions and making sure that everybody aligned around how the company measures performance and success is crucial."

THE ENTIRE PROCESS NEEDS TO OCCUR WITH CROSS FUNCTIONAL TEAMS IN MIND, EXPLAINS STACY. "WE LIVE IN A MORE COMPLEX WORLD, AND DIGITAL IS ALL ABOUT COMPLEX ECOSYSTEMS," HE SAYS. "POSITIONING ECOSYSTEM PARTNERS AS TRUE PARTNERS AND TRUE COLLABORATORS AT THE HEART OF WHAT YOU'RE DOING IS GOING TO BE A VERY IMPORTANT STEP."

LEARN FROM LEADERS

As the Accenture report demonstrates, not everyone has struggled. When delving into what leading organizations have accomplished, it's clear they are benefiting from the ongoing maturation of the latest technologies, whether it's digital twins or threads, AR/VR, applied intelligence and machine learning.

"It's all about driving intelligence across the entire value chain and functions. This is now enabling a level of intelligence and insight that that even 12 months ago wasn't there," says Stacey. "That intelligence and insight drives the ability for industries and companies to actually accelerate the transformation programs and accelerate the return on investments."

Collaboratively realizing results should not as difficult as people think. "It needs some top down clarity around the vision and the strategy, the right leaders with staying power, and the real ability to inspire and bring people together," he says. "If you do those steps, not only will companies transform much faster, they will achieve the kind of returns the research highlighted."

"Decades ago, we talked about how industries need champions. And it's almost this call to arms that industry needs you. Of course, the reason we need champions is because they are a beacon that others potentially look towards and follow," he says. "The growth that the champions enjoyed is a very clear indicator that they are doing something right. It's not just about launching a transformation program that might be 6, 12 or 24 months. They're thinking about the continuous innovation cycle and the innovation loop required to sustain the expected competitive advantage or return on investment. These are manufacturers who recognize the need to speed up the process of innovation." ●



ARE YOU MISSING THESE MANUFACTURING ANALYTICS THAT COULD INCREASE REVENUE?

BY JEFF HAWLEY, CONTRIBUTOR



With a popular line of wood pellet grills and barbecue accessories, [Traeger Grills](#) knew it needed to get its manufacturing analytics in order to continue its impressive growth.

Big box retailers, specialty dealers, and cooking events had helped dramatically increase awareness of Traeger products among key customer groups, from backyard barbecue enthusiasts to world-renowned chefs. But the company sensed potential challenges ahead as its monthly product requests had reached the thousands.

Since third parties fulfilled their orders, it contended with a variety of software programs and formats that weren't operating in the most optimized way possible. At that point, any inefficiencies in warehousing, inventory management, and distribution could adversely affect growth. "We're experts in grilling, not warehousing," says Dave Gebert, director of business analysis and analytics for Traeger Grills.

Traeger called in some help: namely, an [ERP implementation](#) that pumped up the company's data and analytics capabilities. With multiple warehousing facilities around the country, the ERP assesses the best locations to reduce delivery time and costs. Not only that, but it also helps the team better manage supply chains, fulfillment flows, sales orders, revenue and reporting, and more. All this lets management sidestep many of the potential pitfalls of growth and focus on their core business.

By implementing an ERP system like Traeger did, more manufacturers gain access to a set of game-changing analytics that let their businesses prosper. The right data helps IT and manufacturing leaders boost their efficiency, gain greater visibility into their processes and partners—and most importantly, sets the stage for growth.

THE BENEFITS OF MODERN MANUFACTURING ANALYTICS

Data analytics may sound simple but delivering the right data to the right user--at the right time--is quite complex. If done right, it can be a productivity boon. [According to McKinsey](#), "data users can spend between 30–40% of their time searching for data if a clear inventory of available data is not available, and they can devote 20–30% of their time to data cleansing if robust data controls are not in place."

Tell that to Dubai-based General International Group, a provider of water treatment, fire safety and infrastructure management solutions. For them, stepping into better analytics and real-time reporting helped them fuel continued growth. It also meant putting away the spreadsheets that took so much time to compile and resulted in too much human error.

AUTOMATING DATA PROCESSING CAN HAVE SOME PRETTY IMMEDIATE IMPACTS.

Sameh Awad, director at [General International Group](#), says their previous system “just wasn’t the right fit for our growing operating model. The setup made necessary a lot of manual processing.” It used to take up to five days for decision-makers to get ahold of important reports, and sometimes even longer if inter-office collaboration was required.

Unfortunately, it’s a common problem, says Epicor senior product manager Elizabeth Cain. “Every static report typically run by IT is a laborious and lengthy process, and when distributed to the rest of the company, is often immediately obsolete.”

For manufacturers, automating data processing can have some pretty immediate impacts. Those include increased time and resource efficiencies, reducing mistakes from human error, better turnaround time, lower overhead, and increased transparency in processes and operations. The result: more people in the organization empowered to make better business decisions.

HOW AN ERP HELPS MANAGE INVENTORY AND IMPROVE EFFICIENCY

The kind of data analytics afforded by a modern ERP—tracking materials, orders, customers, billing, and shipping in a single system—used to only be accessible to large companies. That’s no longer true, and the benefits are immediate.

If an inventory manager for a medium-sized enterprise has a goal to reduce inventory how will they know if there is dead stock out there taking up shop floor space? With the right analytics, they can understand weekly, monthly, and year-over-year inventory changes. By understanding your inventory, you can eliminate old inventory which provides valuable floor space for the inventory you do require, says Epicor senior product manager Steve Coolidge, who has implemented ERPs for many small- and medium-sized manufacturers.

Once an initial ERP integration is complete, Coolidge says SMBs can then begin to harness the power of the data being stored in their systems. Once they understand how to manage using their system data, they can extend and start analyzing how big data is impacting their business—making a correlation between their sales and the weather or the economy, using traffic and road conditions to understand shipping times to achieve on-time deliveries, or monitoring raw materials pricing and futures to decide if buying more now will payoff later. They will start understanding how those factors impact business. “It really helps to show someone how to better manage a company - to get away from intuition and gut feel and manage by data,” Coolidge says.

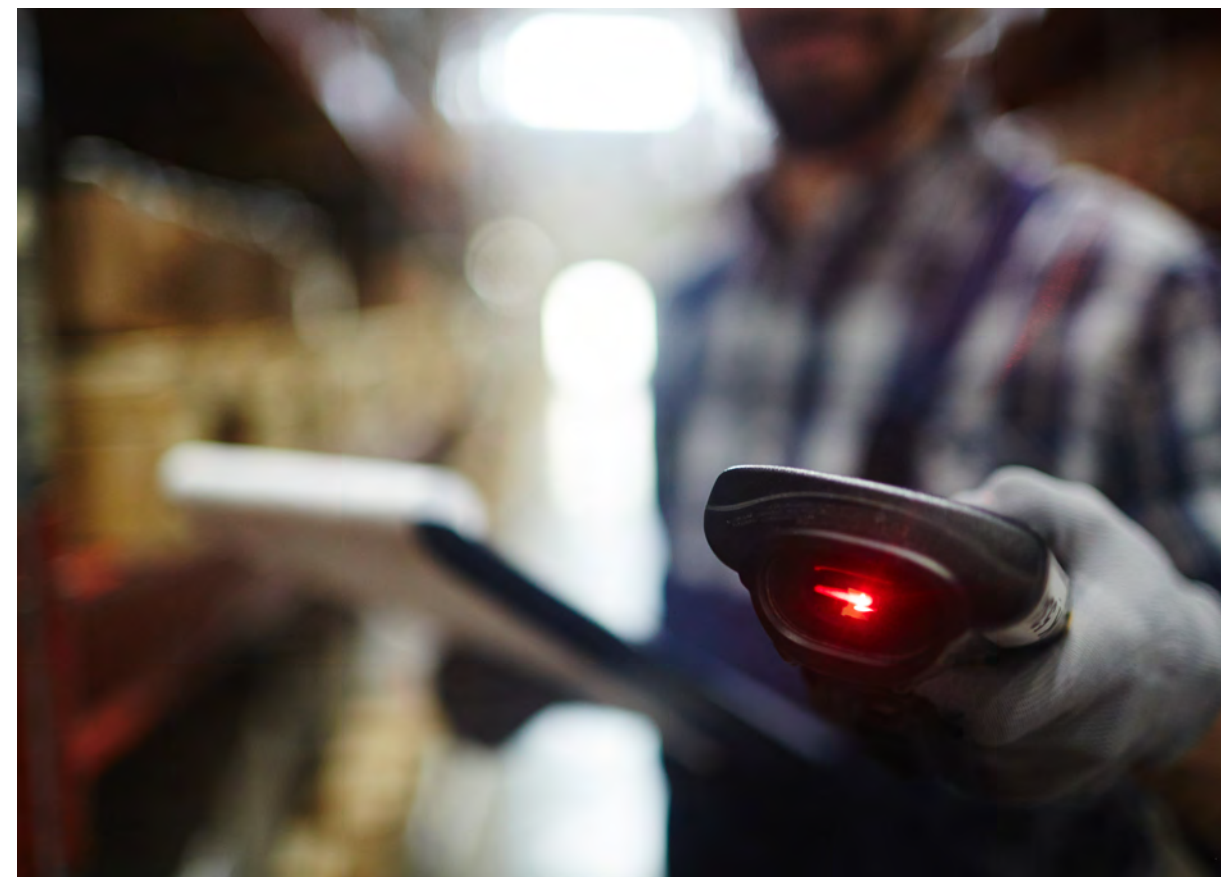
HOW ANALYTICS CONTRIBUTE TO REVENUE GROWTH

Updating business systems is integral to SMB growth and improved profitability—and improved profitability is the top priority of nearly 73% of SMBs, according to an Aberdeen Group report on ERP expectations.

The report authors recognize that economies of scale can improve margins, but to sustain growth, “it is imperative to know all product costs, to manage expenses tightly, and to control established budgets.”

TOTAL VISIBILITY ENABLES DECISION-MAKERS TO QUICKLY FIND ANSWERS TO THEIR QUESTIONS.

ERP technology is tailor-made for managing expenses and driving efficiencies, but data and analytics also helps increase new revenue. As Coolidge explains, after implementation often sales teams want access to reporting to glean analytics about their customers and invoices. Did they buy one product line last year and not another or did they discontinue purchasing on a specific product? “If the salesperson doesn’t have long tenure with customer, they don’t have that historical knowledge,” Coolidge says. With an ERP and business intelligence (BI) tool, that kind of information is at their fingertips.



For a business operator, this “total visibility”—the aggregation of data across companies, divisions, and departments and across time periods—is the goal. Having total visibility enables decision-makers to drill down to quickly find answers to their questions about sales and customer performance, stock levels or supplier performance, and machine and labor performance.

Real-time visibility also enables greater agility, says Epicor senior product manager Cain. “If your revenue is falling short of your forecast, a good decision enablement solution lets you quickly change the focus of the whole dashboard to one sales rep at a time,” she says. A quick glance at a declining line chart can empower a manager to react more quickly to switch course and pursue revenue opportunities.

MAKING MANUFACTURERS MORE PROACTIVE WITH CLOUD-BASED ANALYTICS

With an ERP, the power of analytics increases when it becomes real time. Automatic, daily data updates to powerful cloud-based servers give businesses the ability to see long and short-term trends quickly and easily with data that is never more than 24 hours old. That’s a big advantage of cloud technology. Cloud-based ERP deployments are also quicker. Upgrades can be made remotely and require less capital and talent to manage. Additionally, users can access even the most advanced analytics from any browser on any device.

Grill maker Traeger recently added a cloud-based ERP solution to its implementation to manage orders and operations in one integrated, web-based platform. Users can add virtual services on the fly, integrate with other systems and apps, and scale up or down to accommodate seasonal demand changes. Cloud-enabled reporting on the fly helps them improve processes that are lagging more quickly. For Traeger, third parties fulfill orders within an average of seven days, requiring a high degree of coordination and transparency between parties. Communication used to be manual, costly, and time-consuming. Now it’s automated, with analytics across the delivery chain visible on customizable dashboards. “Our relationship with everyone—dealers, consumers, suppliers, and vendors—has been greatly enhanced and strengthened across the board,” says Traeger’s Gebert.

For manufacturers, improvements in business analytics drive cost savings and revenue increases. But they also translate into the most important factor in business growth: customer relationships. ●

Read Epicor’s eBook, “[Data is the Next Frontier for Manufacturing](#)” for a deep dive on how analytics help manufacturers streamline their operations. Learn more about how companies are driving revenues by making data-informed decisions, thanks to their ERP.



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TIPS TO PIVOT IN TIMES OF CHANGE

Legacy approaches to collaboration can slow a company down during a crisis.

BY JOHN McEENEY



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Concepts like digital transformation and cloud-based collaboration have been top of mind for the last several years. And while there has been plenty of discussion around digital transformation, many businesses still lag in terms of readiness.

When a major external crisis like COVID-19 comes along and changes our world, this lag exposes reliance on cumbersome, error-prone legacy processes. In good times, a cautious or “late majority” embrace of digital may get you by, but when a major externality hits, the weaknesses become glaring. As Warren Buffet once said, only when the tide goes out do you discover who’s been swimming naked.

According to a Gartner survey, 40% of CIOs said they have reached scale for their digital initiatives. Yes, that’s decent progress, but that still leaves 60% whose companies are not up to scale. When a crisis like COVID-19 occurs, the organizations who have not gone digital will struggle to adapt because they’re hampered by older systems and inefficient, file-based collaboration.

Legacy approaches to collaboration are a vulnerability in industry’s ability to adapt in times of crisis. When an external shift takes place, it is about being able to quickly pivot along many fronts, including product innovation, changing your supply base, or producing new products at scale.

Here are a few ways to correct these weaknesses:

1. EMBRACE DIGITAL TRANSFORMATION TO BOOST SPEED AND FIDELITY IN YOUR COLLABORATIVE PROCESSES.

The nature of being digital is that the communication links between each step in a process—and interactions with partners—are faster, higher fidelity, and much less error-prone. File-based legacy approaches that have people wasting time by looking for the right version (or working on the wrong version) are sinkholes for productivity. What is needed is a single source of truth in the cloud, with data and workflows that can be accessed by any authorized party in real time. This digital, cloud-based approach to collaboration recently helped MasksOn, a non-profit organization, to rapidly design safe, reusable medical protective personal equipment (PPE) for hospitals. The group’s first focus was on turning snorkel masks into PPE masks using medical-grade filters and 3D printed parts. That’s just one example of how digital collaboration can help partners pivot.

2. STAY CLOSE TO YOUR CENTER OF GRAVITY IN HUMAN CAPITAL.

Successful companies build domain expertise in areas like mechanical engineering, agile software development, manufacturing quality, additive manufacturing/3D printing, or precision machining of parts. While a company’s center of gravity typically drives its breakthrough products, external events or rapid market shifts can quickly limit sales for established products. In these cases, senior leaders must find ways to apply that domain expertise to new products, new partnerships or other initiatives. Look for rapidly emerging market needs that align with your core expertise. Recent example of sensible pivots include Ralph Lauren, which reallocated apparel production capacity to make masks and isolation gowns for health care workers, and multiple automotive, aerospace, and other industrial companies applying their expertise as part of a U.K.-based consortium, VentilatorChallengeUK, seeking to quickly ramp up production of medical ventilators.

3. CONTINUE TO INVEST IN FLEXIBLE MANUFACTURING INFRASTRUCTURE.

For companies that make discrete products, flexible manufacturing infrastructure that can be reconfigured digitally pays off when change needs to take place rapidly. Take for example, how factories doing heavy assembly now use digital motors that can be reconfigured with software to produce or move new items, rather than mechanical cams and follower equipment. The older equipment was extremely reliable, but inflexible. To the extent you can take a hardened process and make it digital, it becomes flexible. Digitized processes can then act as a platform for rapidly adapting your assets and capacity to new growth areas.

4. TAP INTO CLOUD-NATIVE SOFTWARE TO ENABLE EFFECTIVE WORK-FROM HOME (WFH) PROCESSES.

One of the major lessons of the coronavirus pandemic has been that companies need to be able support WFH at scale. It's not only needed during times of disruption, but as business resumes, many employees want to continue to work remotely. However, remote work and team collaboration is most effective when you have a single source of truth in the cloud. The data management and the bulk of the computing workload should take place via cloud-native, secure apps, allowing users to access their work remotely on any device.

5. ATTRACT YOUNGER GENERATIONS TO YOUR WORKFORCE.

Part of the imperative behind WFH and cloud collaboration is to make your company more attractive to younger generations. One thing these younger workers have in common is that they grew up around mobile and cloud technologies. For them, collaboration means sharing a link that takes you to a cloud platform, as opposed to emailing files around. They aren't going to like a slow pace of work or trying to figure out who has the latest revision. They are also going to be more attracted by companies that support WFH, and empower them to take on innovative projects that quickly meet business or societal needs. Senior executives have to ask themselves—do we have the type of flexible systems and collaboration environment that is going to give us an advantage in attracting younger workers?

6. RETHINK COLLABORATION WITH NEW SUPPLIERS, ESTABLISHING NEW SITES, OR BRINGING SELECT PRODUCTION CLOSER TO HOME.

The COVID-19 crisis has elevated the need to be able to rapidly adjust or expand supply, production, and distribution networks. While I believe global sourcing of component and contract manufacturing will continue to a large degree, many companies are going to be reconfiguring their supply chains to reduce risk. There will be new sites, new suppliers, and realignment of fulfillment networks that need to take place

as part of rapidly adjusting to new risks or opportunities. Those that have embraced digital transformation are going to be able to do things like onboarding new suppliers or ramping up production at new sites much more rapidly than companies which have lagged in going digital.

What ties these flexibility factors together is leadership. Ultimately, a company needs C-level leaders who ask the big questions about what to focus on next, even if it means breaking away from today's bread-and-butter product lines. Just consider the inevitability of electric vehicles (EVs). Automakers need to push EV technology not only to serve a current market need, but long term, too, because EVs are likely to dominate car sales by 2040. Astute leaders can plan for such shifts now by updating their product design platform, using flexible manufacturing, and building up engineering talent required to create future innovations.

VISIONARY LEADERS ALSO KNOW HOW TO ADAPT THE BEST CHARACTERISTICS OF EARLIER PRODUCT SUCCESSSES INTO THE NEXT GENERATION OF PRODUCTS, AS WE ARE SEEING WITH AUTOMAKERS WHO ARE BLENDING EVS WITH TRADITIONAL VEHICLE TYPES LIKE SPORTS CARS AND LIGHT TRUCKS.

Digital design, manufacturing and supply chain capabilities are going to be essential to adapt to an increasingly unpredictable world. Cloud-based systems that support a single source of the truth and rapid collaboration are already helping companies quickly adapt and be more profitable, even in the face of a crisis. And, as we've seen with non-profit initiatives like MasksOn, being able to pivot isn't just about corporate profits. It can help society cope with crisis, too. ●

John McEleney, corporate vice president of strategy at PTC, has spent his career transforming businesses, driving corporate strategy and forecasting what's next in product development and manufacturing.



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