

Digital transformation,
EY's Alliance with P&G
shows why you need to
go back to basics first



Listen closely manufacturers: Don't spend a dollar on digital technologies until you have the basics in place first. If you do not have the basics in place, you'll be squandering your investment and fail to truly realize the impact you're expecting.

This may sound contradictory to what you're hearing from the market – that you absolutely must invest in digital transformation now to stay relevant and continue to grow profitably. Yes, the effective use of digital technologies is becoming increasingly critical for most companies. But digital is not a magic solution, and doesn't have a chance to deliver on expectations, unless you first make sure you first have the fundamental in place to drive operational excellence: people engagement, capabilities, standard work processes and reliable equipment. Only then should you bring in digitization to further enhance performance and make it truly scalable and sustainable across the entire manufacturing enterprise.

Think about it this way: You wouldn't want to put an incredibly powerful engine in a car with a weak suspension, shoddy transmission, spongy steering, and bald tires. Beyond creating a safety hazard, doing so wouldn't substantially improve the car's performance because the vehicle would be ill-equipped to take advantage of all the new engine's capabilities.

The same is true in a manufacturing setting. Applying a digital solution to a process with multiple defects is a waste of time, energy and money because you still have a process that isn't running optimally, is creating waste, and is ultimately undermining your financial performance.



The starting point is attending to the basics, not applying digital

In fact, taking basic steps to eliminate loss and waste, create robust standard processes, and build the capabilities of the people creating value in your factories. This generates a far greater initial return on investment than digitizing “dirty” operations. EY experience shows that a manufacturer can improve costs, downtime, and productivity from about 15% to 30% in just a few months by systematically standardizing processes, empowering equipment operators and eliminating equipment defects. Not only that, the time and money that’s freed up can be used to invest in the digital tools that can then take a “clean” operation to the next level.

And this isn’t theoretical. It’s based on how Procter & Gamble (P&G) approaches its manufacturing and supply chain operations. The consumer products giant has set the bar for operational excellence for decades, and continually improves on already high-performing operations to raise the bar.



Consider some P&G performance highlights:

Improvement in financial performance. Over the past 25 years, P&G has realized significant financial improvement across productivity, manufacturing costs and supply chain reduced inventory.

Improvement in equipment reliability. The improvement here has been significant, with Mean Time Between Failure (MTBF) for an advanced site measured in hours or even days.

Improvement in safety and quality. Because equipment has few stops and stable operations, there's a direct impact on safety and quality. Many sites have had no injuries or major quality incidents for multiple consecutive years.

Improvement in people engagement. The above improvements result in high people engagement. As the workday for both technicians and leadership is predictable there is time available to run the operation and continually work on how to make their equipment and work processes better. This contrasts with other environments, where most of workers' time is spent on "fire-fighting" or "keeping the lines running" by constantly tackling unexpected issues without time for proper problem-solving.

Combined, these results positively influence three higher-level metrics – margin growth, cash growth, and sales growth – that drive P&G's ultimate gauge of performance: operating total shareholder return, or OTSR, which is a proxy for P&G's share price. Margin grows because the higher productivity level and high material utilization reduce the cost of goods, which directly affects the bottom line. Cash grows because P&G can carry much less inventory at the same or higher services levels, as well as to run its assets at the highest reliability and efficiency. This means P&G can avoid large capital investments for additional capacity or buildings because existing assets are continuously sped-up to provide more capacity. In fact, a typical single P&G manufacturing line can produce as many items as two similar lines at a non-P&G site. And sales grow because P&G's operations are more nimble and agile, so the company can deliver what customers and consumers need when they need it, with less lead time – a significant competitive advantage.

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None of this would be possible if P&G had tried to leapfrog the basics of its operations and move straight to deploying digital. The company has focused on building its operational core to the point it's functioning at peak efficiency and productivity, and then—and only then—will we apply enabling digital technologies to get even greater benefits.”

Maciej Stawicki, Global VP for Manufacturing, at P&G.

IWS: the foundation for successful digital transformation

At the heart of P&G's operational success is its Integrated Work System (IWS).

IWS is a holistic, company-wide and integrated operational excellence system that encompasses work processes, human capabilities, tools, methods, operational and technical standards, and enabling technologies – all focused on achieving a clear organizational objective: harnessing 100% employee engagement to continuously drive toward zero loss. Combined, this creates the IWS culture and an inspiring workplace where continuous improvement is the driving force, and the end objective is delighting P&G's consumers and customers with superior products and value.

Furthermore, IWS is not simply a "production system," technology, or program or project of the month or year. It's a comprehensive work system, and a generational commitment to how an organization does work, that extends from manufacturing, across the end-to-end supply chain and beyond, to the entire P&G organization.

In short, IWS is at the heart of P&G's long-term operational and financial performance—and creates the foundation for new digital technologies to thrive. Consider how IWS enabled P&G to consolidate its planning operations from more than 300 global locations to eight, something many people thought was impossible for an US\$80 billion company.

Or to move its more than 90 local planning locations in Europe to only one planning center in Warsaw to support the minute-by-minute

production planning of approximately 900 production units possible. Or to move from nearly 40 local planning locations in the United States to one planning center in Cincinnati. This might sound near impossible, but P&G confounded expectations and did it, and the starting point was standardizing all the planning work being done across the company. Digital solutions didn't even enter the conversation at that point.

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The company didn't say, 'We're going to do machine learning. We're going to do artificial intelligence. We're going to do algorithmic planning. We're going to do robotic process automation,' recalled Fares Sayegh, Senior VP for Supply Chain, at P&G. "None of those words came to the table at the outset 10 years ago. However, once the company co-located all the planning operations, started standardizing the work, and began seeing the efficiency resulting from those efforts, P&G then identified the opportunities for digital, which enabled the company to take planning to the next level.

In short, order-of-magnitude improvement in progress came from digital solutions, but to get there, the basics—especially, standardization built on a culture of employee engagement—had to be established first.

IWS: Not just for P&G anymore

IWS has enabled P&G to continually, and significantly, improve its operational performance for decades. And now, through the EY and P&G alliance, IWS is available to other manufacturers. IWS's inherent flexibility enables the approach to be deployed in companies with very different types of production processes and products, including tires, cigarettes, bread, dairy, beverage, steel processing, packaging, and pharmaceuticals.

In fact, numerous manufacturers are realizing the value of using IWS to digitally transform their operations and supply chain into a highly efficient, resilient, and future-ready system that keeps getting better and delivers long-term value. Here's a sample of the benefits some of these companies have generated:

Client quotes

Global consumer brand

- \$100m** in savings delivered
- 25%** efficiency increase
- \$1b** capex avoidance due to throughput / capacity gains

'I wish we had started the journey with EY and P&G sooner'

Global beverage company

- \$100m** savings globally in manufacturing since 2016
- \$30m** cost reduction per plant (projected) as a result of increased production and material flow
- 10%** cincrease in overall equipment effectviness

'This has changed the lives of people working in our teams – from fire fighting to structure'

Global food company

- \$175m** incremental cost savings and margin uplift
- \$400m** deffered in capital spend
- 100%** employee engagement by embracing equipment ownership and development of people capabilities

'We didn't believe what was possible, but it's delivered beyond our expectations'

Our clients have realized an average 7-10x return on their investment in our solution

IWS really isn't about technology

IWS, at its core, has nothing to do with technology. Instead, it's all about fundamentally improving the way people work. And that hinges on IWS's biggest strength: its culture component. IWS is a program that brings culture change to 100% of a company's people—a culture of ownership and eliminating losses. That's what delivers—and sustains—truly significant business results, on its own, without technology.

That said, technology can play an important role in extending IWS and magnifying its results. Whether it's automation or digitization, technology is increasingly a key enabler of working more efficiently and optimally, being more effectively connected, and operating in real time to continually improve performance.

From a P&G perspective, there are four ways in which technology can help. Two of these are related to driving greater efficiency by making certain activities faster and easier to execute:

By automating data flows across a process or activity and providing greater visibility into what's happening, technology can make it easier for anyone to identify and eliminate losses, thus saving time.

Technology also can eliminate repetitive tasks—for instance, through robotic process automation or physical automation—which also boosts efficiency.

The other two ways technology can help in an IWS environment are tied to effectiveness gains:

Technology makes it possible to do some things that humans simply don't have the capacity to do, such as inspecting every single part made on a production line with 100% accuracy, continuously monitoring every dimension of a line's operational performance or regularly checking the accuracy of hundreds of thousands of master data entry a planner relies on.

Technologies such as advanced analytics can also dig deeply to find correlations between data that no human could find, while machine learning could trouble shoot incredibly complex problems and find root causes that likely wouldn't be uncovered by humans manually looking for them.

The key point here is that technology would have little impact in any or all of the above if the fundamental IWS capabilities—especially, good, standardized processes and practices—were not in place. For example, a company can have a great dashboard to visualize data, but if the quality of the underlying data is poor, or there's no capability to leverage that visibility to make improvements, the dashboard is worthless. Similarly, if a company implements a digital twin to simulate how the company should respond to a breakdown that's occurring in a warehouse but has no consistent standards in place for how to respond, the technology is providing little or no value. Or if a company has deployed hundreds of sensors to a production line, but the line isn't operating with standards to begin with, the sensors are simply capturing bad data or outputs. Without standard work it is hard to automate tools and gain adoption across differing modules or operations because their needs "seem" different.

One example of how technology is enhancing IWS is in P&G's Daily Direction Setting meetings. These are meetings during which P&G teams at each site gather to gain a clear understanding of where they are at that moment and where they need to go through the balance of the day, tomorrow, and the weeks and months ahead. What's the latest state of the team's area of responsibility? How did yesterday or the previous shift run? What are the potential risks to manage today? What's the plan for the coming day or shift? What are the trends over time? What are the key themes they're tracking in terms of losses and opportunities?

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Gathering and tracking all this data used to be done manually running reports from various systems and communicating via clipboards and whiteboards, which took up a lot of people's time,” said Doug Bayer, Global Manufacturing and Innovation Lead at P&G. “We are now piloting an integrated digital solution at our Rakona site—Smart Daily Management—which provides all of this information automatically, in real time, via dashboards accessed through tablets. So what used to take an hour to prepare for a meeting can be done with the touch of a button. And as a result, instead of spending most of their time finding, collecting, and reporting information, teams can focus on using that information to action plan and improve. The point is, these meetings are highly effective on their own due to IWS's standards, and the logic, principles, culture, and structure of the meetings haven't changed at all in 30 years. P&G is just using technology to make everything simpler, less effort-intensive, faster, and more accurate. All the time saved by using technology can be reinvested into improving work, driving the continuous improvement cycle.

Another example is how P&G employees think about applying automation or broader digital solutions as part of their focus on improving work processes—to eliminate manual repetitive work, boost quality and efficiency, and enable employees to concentrate on more value-adding activities. Consider, for instance, material and finished product flow. How can we automatically order materials from the warehouse to the line?



How do we automatically receive those materials at the production line? How do we automatically consume those materials—for instance, with just one touch on a tablet? How do we automatically control that the right materials in the right quantity are used? At the end of a production order, how do we automatically return any leftover materials? From the completion of that production order, how do we automatically collect all the quality results and confirm that the production order is ready to release? And then, how do we actually release it with a click of a button, so that it can be shipped to customers on a much timelier basis with a lot less lead time than before?

A third example is the use of sensors and cameras on production lines. An average manufacturer often doesn't know that a line isn't performing correctly until it fails. Having sensors and cameras on roughly every meter of a production line, P&G knows in real time how the line is performing and can identify if something goes awry and requires attention. It also changes the culture, as operators can have a fact-based discussion on what happened: They can see the line failures instead of guessing about what happened. This capability was critical during COVID-19 restrictions, as it made it easy for manufacturing leaders to continually monitor the performance of their lines even from their home office or living room. But that wouldn't be possible if P&G didn't already have the underlying best-practice standard processes in place that govern how the line runs, the data it generates, and how to respond to unplanned stops.



IWS changes the digital transformation game

Digital has become a top priority for most companies and will remain so for the foreseeable future. Yet many manufacturers continue to be disappointed in the return on their digital investments, and that's because they have their priorities wrong. "The end goal shouldn't be 'applying digital,' but rather, value creation," noted Mr. Sayegh. And digital can't create value without consistent, standard operating practices with zero defects—i.e., IWS—in place first."

In fact, IWS can absolutely exist without technology and drive big, sustainable performance improvements on its own, as P&G has shown in the past decades. For instance, a company doesn't need machine learning to identify and eliminate the vast majority of losses—that can be done by applying IWS's standards. Technology can make IWS more powerful and accelerate its impact, but IWS's capabilities must be in place to make technology truly useful.

Digital helps expand and extend IWS's impact, but digital needs the foundation IWS provides to thrive. A company can't take advantage of Industry 4.0 technologies without, for example, making sure that a production line is operating well before adding sensors to it. Sensors are no benefit to a line that stops 100 times a day. Without ensuring such fundamentals are in place first, companies are just wasting their money on digital. They're applying digital to operations that aren't high performing to begin

with, so while they may get some bump in performance, it won't be as much as they hoped for given their level of investment.

A company that has IWS and its best-in-class standards in place across the enterprise is applying digital to an already higher level of capabilities, which means the return on that digital investment will accordingly also be much higher and generated much more quickly.

And with the same standards in place across the company, it's easy to take the digital tools being built in one area of the company and quickly apply them elsewhere. For example, P&G uses one standard technology platform with a standard data structure in every one of its sites around the world. As a result, when someone in the Czech Republic, for example, builds an app that shows the inventory of a certain SKU at a certain stage in its flow, another person in a site in China can simply change the app's site and SKU parameters and it will work in the new environment.

The bottom line: IWS significantly changes the digital transformation game. It's what manufacturers need—first—to get the most from their digital investment and set the stage for future growth and competitiveness.



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