KPMG

Breaking the manufacturing productivity deadlock

With challenges around capital, complexity, and culture stalling performance, a Control Matrix approach enables disciplined execution and comparative advantage.

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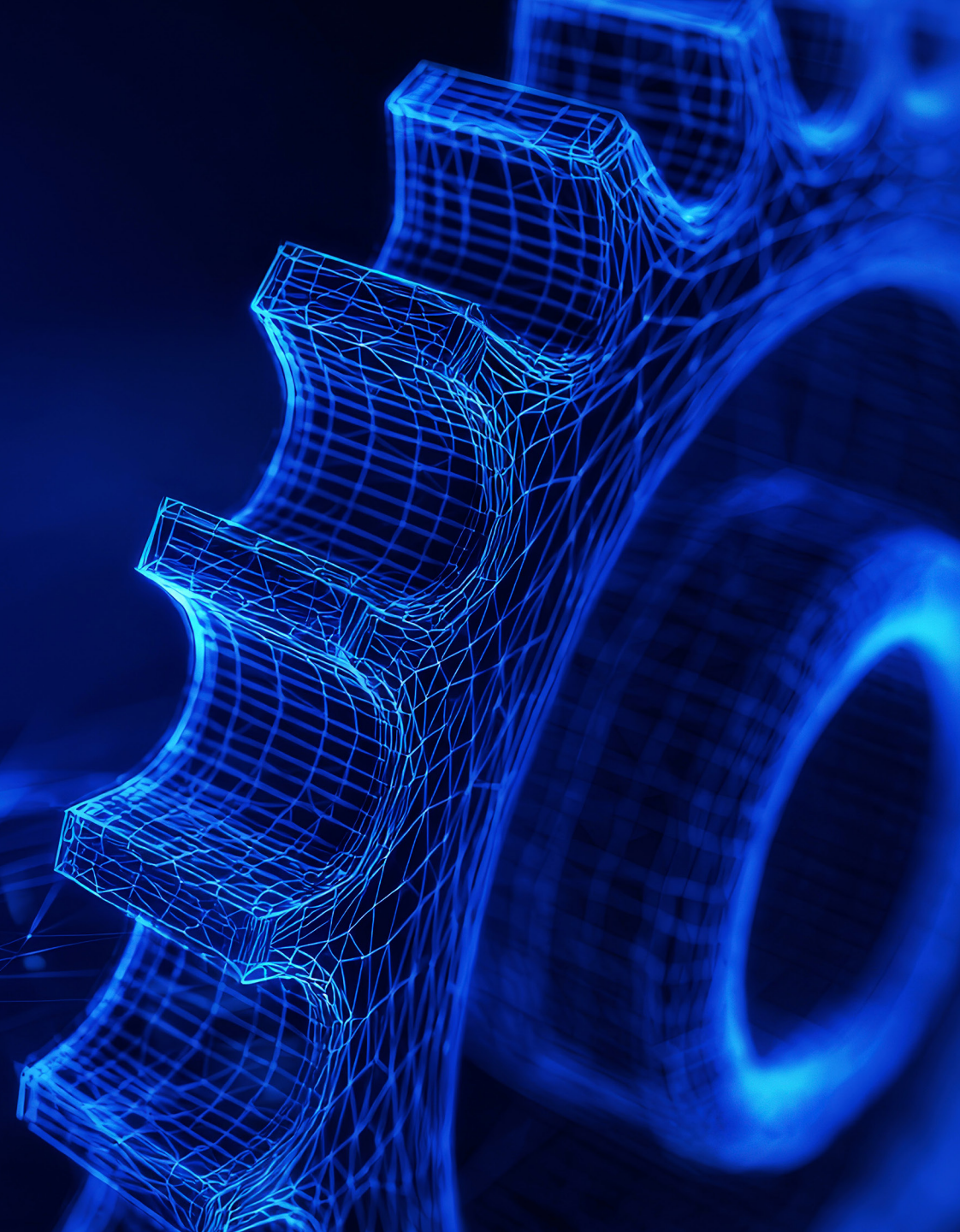

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From cost reduction to comparative advantage

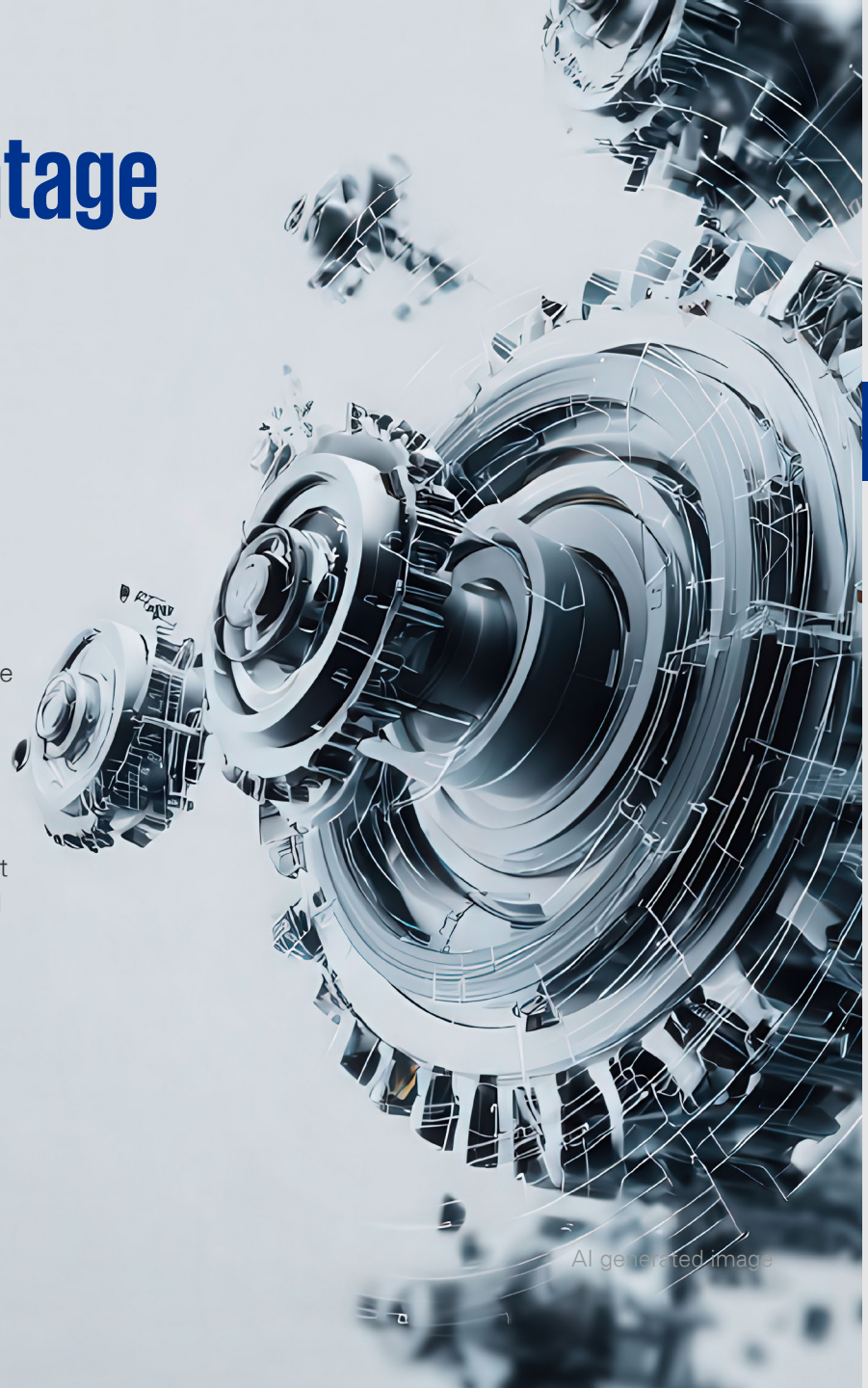
A troubling paradox is stalling industrial manufacturing (IM). Despite historic levels of investment in production, productivity is declining and every unit costs more to produce. This isn't a cyclical dip. For more than two decades, capital productivity has fallen at a compound annual growth rate of 1.21 percent.[1]

In response, many leaders debate where to manufacture, shifting from offshoring to nearshoring and back again. Yet KPMG has observed that the basis of competition has already shifted. Customers expect speed, quality, and reliability at globally competitive prices regardless of origin, making location an insufficient source of strategic advantage.

To win in this environment, manufacturers need to win back the cost curve by increasing productivity. The right way to operate, invest, and compete is within reach, but the path forward requires clear-eyed analysis and problem-solving across three key domains: capital, where short-term thinking and rigid financial modeling constrain execution; complexity, where legacy systems entrench inertia; and culture, where enterprises built for stability often resist the very disruption needed to compete.

KPMG believes harmonizing these domains is the key to increasing productivity. And although most productivity conversations begin and end with technology, we propose a different starting point: a thoughtful analysis of how to harness capital, complexity, and culture to identify the operational strengths and capabilities that differentiate your business from competitors. This requires a practical tool for making and prioritizing strategic decisions—what we call the Control Matrix.

Instead of trying to leapfrog competitors in a single year, outperform them by relentlessly improving the factors within your control and stacking the operational gains that compound over time. The goal is not to win every battle, but to systematically build a cost structure and operating model that competitors cannot replicate. Here's how to win the game you can control.



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[1] Source: US Bureau of Labor Statistics.

The anatomy of the stalemate

Understanding the forces that erode competitive position

Manufacturing's productivity challenge is rarely the result of a single constraint. Instead, capital, complexity, and culture reinforce one another in a self-perpetuating cycle. Limited capital delays modernization, legacy complexity raises the cost and risk of change, and cultural resistance slows adoption of new ways of working. Together, these forces create a stalemate that prevents organizations from realizing productivity gains even when technology solutions are readily available.

The capital trap: Investment friction and misallocation

Financing constraints create the largest headwind to technology adoption, affecting 45 percent of manufacturers and limiting access to advanced equipment.[2] In addition, an internal KPMG benchmarking analysis demonstrates that many IM leaders worry that limited resources or budget constraints are hindering effective integration of new technology solutions within their organization.

But KPMG has observed that a more pervasive issue is how capital is allocated and evaluated. For example, many manufacturers rely on traditional budgeting models like Net Present Value and Internal Rate of Return, methodologies that favor projects with quick, high, and easily quantifiable returns. However, these models struggle to capture the full spectrum of benefits from artificial intelligence (AI), which include long-term strategic advantages such as improved agility and enhanced decision-making. That often leads to analysis paralysis.

Proposed use case:

Escaping the capital trap

Consider an automotive company that is falling behind on technology improvements. The executive team is caught in a capital trap, vetoing new machinery investments to protect quarterly earnings. This results in frequent, costly breakdowns and high energy consumption from outdated equipment.

The plant manager applied the Control Matrix to reframe the issue. She identified that while she couldn't control the market price, she could control the marginal cost per unit. She launched a pilot on a single production line, using operational savings to fund a targeted equipment upgrade. The new machine immediately lowered scrap rates and energy costs, proving a rapid return. This data-driven success story broke the capital deadlock, securing investment for a plantwide modernization.

[2] Tarikua Erda and Thomas Walstrum, "How Do Manufacturers Decide When to Invest in New Equipment?," Federal Reserve Bank of Chicago, December 2024.

Consider automation. Decision-makers often evaluate immediate labor savings alone, underestimating its ability to fundamentally reshape the economics of the business through higher productivity, improved quality, and greater throughput. Several factors reinforce this short-termism:

Uncertainty and hesitation: Over half of manufacturers project static or decreased capital expenditures. Tariff uncertainty exacerbated this trend, leading 68 percent of IM respondents to delay or cancel investments.[3]

Budgeting silos: KPMG has observed IM companies categorizing AI and automation initiatives as information technology (IT) expenditures rather than strategic transformation investments. This forces internal competition for limited budgets that prioritize maintenance over innovation.

Risk aversion: A history of costly IT project failures has created a culture of risk aversion, making leadership hesitant to approve large-scale technology deployments.

The strategic challenge lies in an organization's ability to fund long-term transformation despite budgeting cycles, financial metrics, and organizational structures that inherently prioritize short-term maintenance over innovation.

[3] "Tariff Survey 3.0," KPMG LLP, March 2026.

The complexity trap: The high cost of legacy and variety

Many manufacturers have for decades operated with established processes and legacy systems that create a complex environment that is difficult to change.[4]

Many US factories are not yet technologically prepared to fully capture current growth momentum, with outdated systems, weak cybersecurity, and delayed IT investment creating material operational risks.[5] In fact, analysts estimate that nearly 70 percent of industrial facilities still rely on legacy equipment that struggles to integrate with modern technologies.[6]

This reliance creates a meaningful financial impact. Legacy systems in manufacturing often consume 60 percent to 80 percent of IT budgets, are more than 20 years old, and raise failure risk by 35 percent when operated past their lifecycle.[7] But challenges accompany modernization as well: 67 percent of manufacturers struggle to integrate modern technologies, driving inefficiency and costs.[8]

Legacy technology often can't easily share data, making integrating modern AI solutions costly and complex. This incompatibility reinforces production and research and development silos and makes it difficult to connect AI-driven insights across the enterprise. But this web extends far beyond the four walls of the plant, entangling suppliers, logistics providers, and distribution channels. Complexity accumulates through small, simple, and reasonable decisions, such as adding a new product variant or service level. Every variation can trigger a bullwhip effect of cost and complication throughout the entire upstream and downstream supply chain. That's why leaders who focus only on in-plant complexity miss half the picture.

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[4] Martin Kaestner, Carmelo Mariano, S Sathish, Adrian Clamp, Intelligent manufacturing, KPMG International, May 2025.

[5] Joe Fetter, "2025 U.S. Manufacturing Technology Readiness Report: Ready to Lead?," Integris, 2025.

[6] "Industrial Legacy: Why 70% of Factories are Drowning in Outdated Hardware," Promwad, December 15, 2025.

[7] Rajkumar Chindanuru, "Legacy Application Modernization in a Manufacturing Industry," International Journal of Advanced Research in Engineering and Technology, January 2025.

[8] Ibid.

To be clear, all complexity creates costs. But to manage complexity effectively, leaders must distinguish between complexity that creates or erodes value. Complexity must earn its way into your operations, justified by the market value, customer value, or strategic differentiation it creates. This requires viewing the organization through a dual lens: Balancing the cost of complexity against the value of variety:

The cost of complexity refers to the value-eroding, often self-inflicted burdens that increase operating costs without adding commensurate value. It includes duplicate systems, fragmented data, excessive approval layers, and a lack of reusable components. Operations leaders inherently know these factors drive up costs, but they often lack the data to quantify the impact, making it impossible to build a business case for change. Consequently, companies should periodically take a zero-based look at complexity at the level of product and service offering to eliminate complexity at the root.

The value of variety refers to the value-contributing complexity that is core to a company's competitive strategy, such as product customization, unique engineering expertise, or advanced manufacturing capabilities. The challenge lies with the commercial side of the business, which struggles to articulate the true economic value of this variety—be it product, service, customer, supply chain, operational, or service-level.

Yet portfolio rationalization—selling off business units, product lines, or customer segments that are not aligned to the long-term strategy, even if they remain profitable—is often one of the most powerful productivity levers available. Simplification reduces organizational complexity, improves management focus, and frees capital to invest in future competitive advantage. If teams cannot articulate the value of variety, then the organization loses the ability to distinguish between the complexity worth preserving and the complexity worth eliminating.

Proposed use case:

The aerospace supplier simplifying complexity

An aerospace parts manufacturer was plagued by rising costs, long lead times, and high defect rates across a portfolio of highly customized engine components. Leadership initially blamed uncontrollable factors such as volatile raw material prices and shifting client requirements.

Using the Control Matrix, the team shifted focus to internal, controllable issues. They identified that the true problem was the complexity of their own legacy production line and a siloed quality control process. Instead of a complete overhaul, they invested in targeted IoT sensors for their oldest machines to predict maintenance needs and created a small, cross-functional "quality swarm" team empowered to solve issues on the factory floor.

This focus on controllable factors reduced defects and created a flywheel of savings that funded further upgrades.

The culture trap: Resisting the antidote

The cultural fabric of most manufacturing organizations is woven for reliability and risk mitigation. While these traits have built world-class companies, they also create powerful inertia against change.

Nowhere is this cultural resistance more apparent than in the adoption of new technologies. From data-driven decision models in the front office to Internet of Things (IoT) on the factory floor, the promise of innovation often runs into a wall of human skepticism. When employees perceive technology as a threat rather than a tool, they may—consciously or subconsciously—sabotage its adoption.

The rapid advances in physical AI, which bring automation directly into contact with frontline workers, provide a particularly stark example of this challenge. Physical AI—the convergence of AI and advanced machinery that can perceive, reason, and act in the physical world—enables manufacturers to automate increasingly complex physical tasks while improving productivity, quality, throughput, and operational flexibility. Physical AI is more than simple automation; it encompasses a suite of integrated technologies, including collaborative robots that work alongside humans, machine vision systems that can identify microscopic defects in real time, and autonomous mobile robots that manage a factory's internal logistics.

For manufacturers, physical AI is poised to reshape labor economics, operating models, and sources of competitive advantage across the industrial sector. But for factory workers, concerns around physical AI are rooted in the threat of job displacement.[9] This anxiety is amplified by concerns that even if they keep their jobs, their roles will be de-skilled to simple monitoring tasks, eroding their sense of identity and pride in their expertise.[10] Many also fear they will be unable to learn the complex new skills required to adapt to this technological shift.[11] These fears are intensified by a fundamental distrust in management, making workers skeptical of promises about "workforce elevation" when they suspect the ultimate goal is to reduce headcount.[12]

Critically, the adoption of physical AI is not a strategy for workforce replacement. By deploying these technologies, manufacturers can free their human talent from repetitive, strenuous, or dangerous tasks. This cultural and operational shift allows employees to transition into higher-value roles as system supervisors, data interpreters, and process improvement strategists, turning their institutional knowledge into a tool for optimizing the intelligent factory.

Despite the potential for workforce elevation, significant cultural inertia remains, as evidenced by recent industry data—42 percent of manufacturers cited organizational structure or culture that resists change as the primary roadblock to implementing smart factory strategies in 2025. Similarly, the KPMG Grow survey revealed that 39 percent of IM respondents were concerned that resistance to change among employees was hindering effective integration of new technology solutions within their organization.

[9] Michele Lerner, "Worried about AI in the workplace? You're not alone," American Psychological Association, January 30, 2024.

[10] Xuan Liu and Yuxuan Li, "Examining the Double-Edged Sword Effect of AI Usage on Work Engagement: The Moderating Role of Core Task Characteristics Substitution," PubMed Central, February 2025.

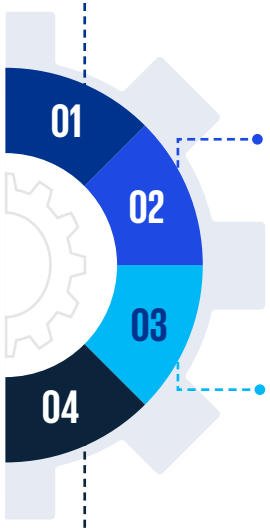
[11] Ninggui Duan, et al., "The impact of AI anxiety on career decisions of college students," PubMed Central, February 2026.

[12] "The Enterprise AI Transformation Journey: Embracing the Agentic Pivot and Beyond," Spark, 2026.

[13] Jeff Puma, "Survey: M4.0 Appears Poised for A Significant Leap," Manufacturing Leadership Council, January 31, 2025.

Deep-seated psychological and organizational factors drive this resistance:

Psychological drivers:



The trust gap

The "black box" nature of AI—meaning, a lack of transparency about the ways AI makes decisions—can breed suspicion.[14] Employees are hesitant to trust technology they don't understand, and concerns over data bias, and model hallucinations are growing.[15] This trust gap will be an obstacle to AI adoption and value realization. Closing it is becoming a mission-critical priority.

Fear of obsolescence

The most significant driver is the fear that AI will eliminate jobs, devaluing years of experience. Many employees worry that AI could cause widespread job displacement.[16]

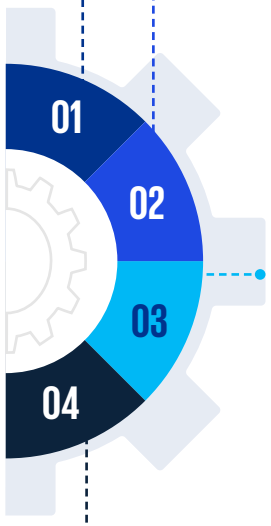
Loss of status

Experienced operators may fear looking incompetent while learning a new system or losing their status as the resident expert.[17]

Lack of imagination

Taking your market position for granted and putting too much emphasis on continuous improvement, which may stifle innovation.

Organizational drivers:



Lack of a compelling "why"

When leadership fails to articulate a clear vision for AI adoption beyond simple cost-cutting, the initiative appears aimless and threatening.[18]

Misaligned incentives

Leaders frequently demand innovation while maintaining approval processes, budgeting mechanisms, governance structures, and performance metrics that reward risk avoidance. This is reflected in a survey from the Chicago Federal Reserve that found that organizational consensus barriers present a significant drag to implementing new technology, with 25 percent of firms citing management-technical staff disagreements as impediments to technology deployment.[19]

Rewarding expeditors

KPMG has also observed that many manufacturers reward executives who have successfully executed a series of low-risk, low-return projects or who excel at resolving crises. This fosters a culture that deprioritizes the bold improvements required for true transformation. While these skills are valuable, the capabilities required to manage operational firefighting are not always the same capabilities required to lead enterprise-wide transformation. A reliance on expeditors often indicates underlying systemic issues and fails to cultivate the skills needed for long-term structural change.

Lack of imagination

Taking your market position for granted and putting too much emphasis on continuous improvement, which may stifle innovation.

[14] Bhaskar Chakravorti, "AI's Trust Problem," Harvard Business Review, May 3, 2024.

[15] "When AI Gets It Wrong: Addressing AI Hallucinations and Bias," MIT Sloan Teaching & Learning Technologies, 2026.

[16] PYMNTS, "54% of US Workers Wary of GenAI's Impact on Jobs, Report Finds," PYMNTS, May 22, 2025.

[17] "When New Technology Arrives, Who Wins and Who Loses?," Kellogg Insight, March 5, 2024.

[18] Kathy Caprino, "Why AI Adoption Is Failing Inside Many Companies," Forbes, June 27, 2026.

[19] Tarikua Erda and Thomas Walstrum, "How Do Manufacturers Decide When to Invest in New Equipment?," Federal Reserve Bank of Chicago, December 2024.

Caught between the pressures of the capital, complexity, and culture traps, strategic paralysis is unsurprising. The temptation is to look outward—at volatile markets, supply chain disruptions, or geopolitical shifts—for both the cause of the stalemate and a potential solution. However, this approach cedes control and ultimately prolongs the deadlock. Breaking free requires shifting from reacting to external forces to systematically improving the factors that remain within management's control. This requires finding and empowering a cohort of leaders who have demonstrated a willingness to embrace calculated risks for higher returns. But they will need a practical way to distinguish between the challenges that must be managed and the disadvantages that can be eliminated. The Control Matrix provides that lens, helping leaders focus scarce capital, management attention, and technology investments on the areas most likely to improve cost structure and competitive position over time.

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Proposed use case:

The industrial equipment company overcoming the culture trap

A heavy equipment company attempted to deploy an AI-powered predictive maintenance system to reduce downtime. The project failed when veteran maintenance crews, fearing their jobs were at risk, resisted the new technology and stuck to their old routines.

Recognizing this as a controllable culture trap, management paused the rollout. They initiated a "Model Plant" program, inviting the most experienced technicians to codevelop the AI workflow. Their deep knowledge was used to train the system, and their roles were elevated to "Reliability Strategists." Moreover, they were then called upon to bring the program to other facilities.

By making the team integral to the solution, the company can foster adoption and reduce unplanned downtime. Transformation works better when experienced employees become part of the change, not obstacles to it.

Is continuous improvement enough?

A strategy of continuous improvement can result in incremental, ongoing productivity gains and is essential for long-term operational health. But it can become an obstacle if it masks the need for fundamental transformation. Oftentimes, companies are good at optimizing component functions, but that can lead to silos and departmentalization, as well as giving a reassuring but false sense that the overall organization is improving. Even top-of-the-mountain, high-margin, high-share companies are at risk and need to look downhill for disruptive threats.

If your organization is facing significant external threats or internal dysfunction, a more aggressive step change may be necessary. Consider the following to guide your decision:

You are losing to competitors on cost. If you are consistently being underbid by a disruptive competitor, then incremental improvements may not be enough to close the gap. A step change in your cost structure through technology or process overhaul might be required to regain a competitive footing.

You aren't using the right benchmarks. Internal best-practice gap closure is valuable but may not be sufficient if the benchmark or comparable itself is too limited.

Competitors are improving faster than you. If emerging competitors are closing performance gaps faster than your organization can through incremental change alone, then a transformational step change may be required to reset your position and remain competitive.

Persistent quality issues or backlogs are eroding your market reputation. If you are unable to clear your backlog as quickly as your peers, or if quality problems persist despite ongoing efforts, then it may signal that your current systems are the source of the problem and may need an overhaul. A culture of continuous improvement can sometimes mask the need for a more significant, transformative intervention.

Your leadership culture is risk averse. While this approach ensures stability, it can prevent the organization from making the bold moves necessary to compete in a rapidly changing market. A step change may be needed to break the cycle of low-risk, low-return projects and foster a culture that embraces transformative change.

The goal is to make a significant leap in performance that allows you to get back on track and then resume a path of continuous improvement from a new, more competitive position.

The Control Matrix: A framework for ruthless prioritization

To break the stalemate, leaders must shift their focus from external forces they cannot control to internal factors they can.

The Control Matrix is a practical framework for self-assessment and ruthless prioritization. It helps organizations map their strengths and weaknesses to make strategic decisions about where to invest capital and attention.

The framework is a 2x2 grid that categorizes capabilities based on two axes: their status as a Comparative Advantage or Disadvantage, and whether they are Within or Outside the organization's control. (We define "comparative advantage" as a company that excels in producing certain products or services more efficiently or cost-effectively than rivals, even if another company produces them better overall.

In contrast, competitive advantage is what helps an organization stand out, attract customers, and perform better than the competition.)

While all four quadrants require attention, the greatest value creation opportunities typically exist in comparative disadvantages that remain within management's control. These areas often represent years of accumulated inefficiencies, manual work, legacy processes, and organizational friction. Eliminating them creates immediate economic value while freeing capital to strengthen existing advantages.

Quadrant A: The natural

What it is: A strength that depends on external factors, such as a skilled workforce in a competitive labor market or a favorable regulatory environment.

Strategy: Protect and leverage. Defend this advantage through proactive engagement, such as investing in employee retention and upskilling. Where possible, influence the external environment through lobbying and industry partnerships.

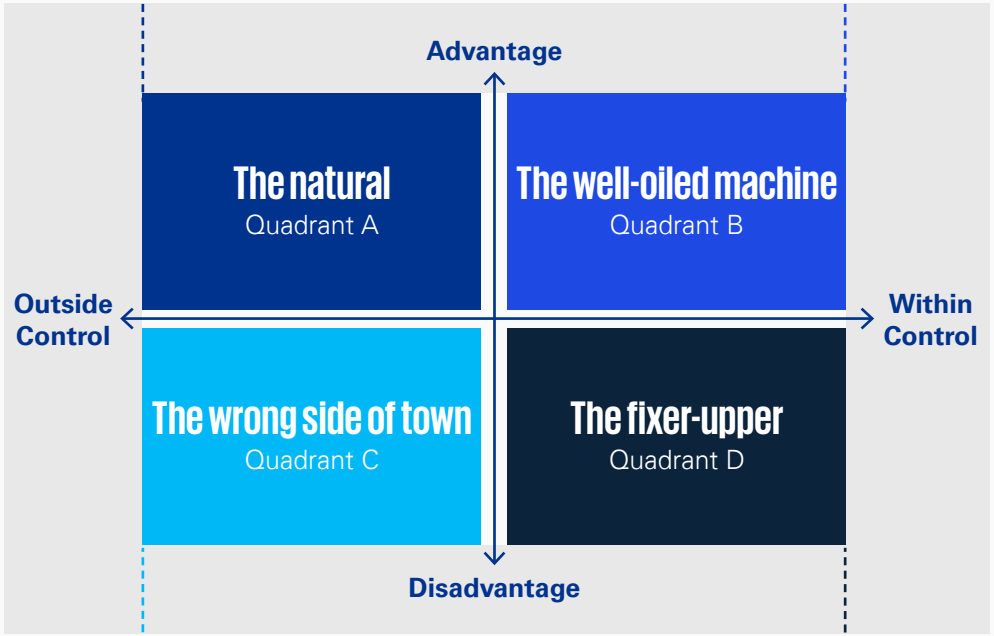
Quadrant C: The wrong side of town

What it is: The resource trap. These are disadvantages you cannot realistically change, such as high union labor costs, regional energy costs, customer-driven customization requirements, or entrenched local regulations.

Strategy: Work around and mitigate. Do not fight a losing battle. Instead, innovate around the constraint. For example, if labor costs are high and inflexible, redesign products for simpler, automated assembly that requires less labor.

The Control Matrix

Companies may have plants, lines, segments, or initiatives in every quadrant. The matrix is a lens for prioritization, not a tool that assigns the whole enterprise to a single quadrant.



Quadrant B: The well-oiled machine

What it is: These are your crown jewels—proprietary process knowledge, unique engineering talent, a well-honed production system.

Strategy: Invest and improve. Double down on these strengths. Use capital, automation, and physical AI to build an insurmountable lead and widen the gap with competitors.

Quadrant D: The fixer-upper

What it is: This is the highest opportunity quadrant for remediation. These are self-inflicted wounds—high manual labor costs due to inefficient processes, poor quality from outdated equipment, or value-eroding complexity. This quadrant often becomes the starting point for transformation because operational improvements generate the capital needed to fund future advantage.

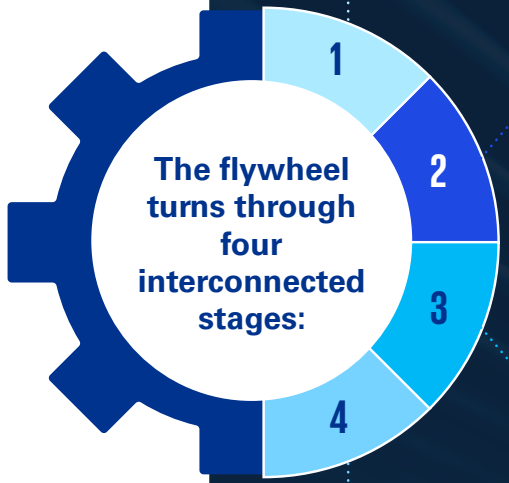
Strategy: Close the gap or leapfrog. This may be a prime target for investment if the initiative is part of the core business strategy. Tech levers such as robotics, vision systems, and physical AI can reduce manual labor, improve quality, and cut downtime. But don't forget about non-tech levers; strategies such as process improvement, lean adoption, and training also diminish disadvantages.

The flywheel effect creates a self-sustaining cycle of advantage

The flywheel effect describes the self-sustaining cycle where disciplined actions build on each other to accelerate momentum and create lasting advantage.

The flywheel cycle begins by addressing controllable disadvantages and reinvesting the resulting gains into areas of competitive strength. Over time, this creates a self-reinforcing cycle of improvement that accelerates transformation.

It is critical to note that while macrolevel forces like government regulation or tariffs are themselves uncontrollable, an organization's response to them is not. An agile, data-driven approach to new emissions standards, for example, can become a source of long-term competitive advantage, while a slow, inefficient, or purely compliance-focused response creates a significant controllable disadvantage. The Control Matrix forces this crucial distinction.



Initial gains: Determine if the organization is fully exploiting the advantages of the activities in Quadrant B. Ask: Is a dollar of effort in quadrant B worth more than a dollar of effort elsewhere? Remember that a competitive advantage may be time-limited, e.g., a three-year exclusive technology advantage that must be exploited before it expires.

Attack controllable disadvantages: Focus relentlessly on **Quadrant D**. By attacking controllable disadvantages like inefficient processes or high scrap rates, the organization unlocks the first wave of tangible cost savings and frees up capital.

Systematic reinvestment: Reinvest those savings into targeted technology to fortify **Quadrant B**. This strengthens your core advantages, making them even more difficult for competitors to replicate.

Compounding gains: The returns from this technology-driven boost are substantially larger, providing a greater pool of capital. This creates a virtuous cycle where success funds further transformation, breaking the capital-complexity-culture paradox.

As the flywheel gains momentum, the organization shifts from reacting to constraints to systematically creating advantage. Capital becomes easier to deploy as transformation initiatives generate measurable returns. Complexity becomes easier to manage as legacy inefficiencies are eliminated and processes are simplified. Culture becomes more receptive to change as employees see tangible results and build confidence in new ways of working. The organization transforms from one struggling to get projects approved to one that is continuously innovating, building a durable competitive advantage that is difficult for competitors to replicate.

Key recommendations

The next step is to translate insight into action through three no-regret moves that enable measurable progress.

The objective is not to solve every challenge simultaneously or to beat global competitors overnight. It is to systematically address the controllable disadvantages that create the greatest drag on performance, reinvest the gains into areas of strategic strength, and stack wins against domestic rivals.

First, break the capital trap with a "fund the journey" mindset

Breaking the capital trap requires shifting from seeking large, up-front budgets to creating a self-funding engine for transformation. The most effective way to do this is through a series of surgical, short-term initiatives designed to generate tangible savings in three to six months. These quick wins generate the initial capital and, more importantly, the organizational momentum needed to fund the longer-term journey, proving the value of change and making the case for continued investment.

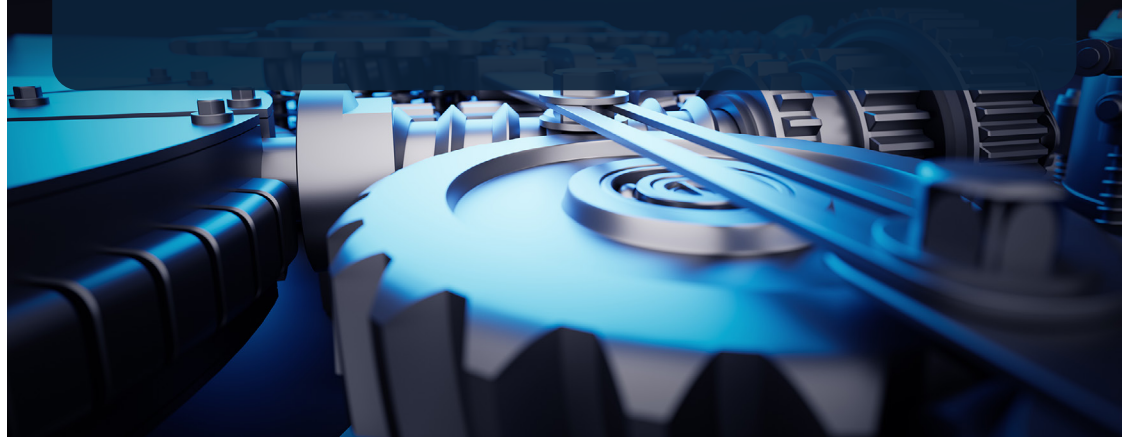
Treat mandatory spending (e.g., quality, traceability, cybersecurity, or compliance initiatives) as an opportunity to uncover broader operational inefficiencies. Use the resulting visibility and data to identify and eliminate controllable disadvantages (Quadrant D), creating the first wave of savings that powers the flywheel.

Priority actions:

- **Launch a quick strike pilot:** Identify and execute a single, high-impact initiative with a clear line of sight to generating savings within three to six months. Focus on areas like indirect procurement, inventory optimization, or accounts payable management.
- **Create a transformation fund:** Formally track the savings from your pilot and create a dedicated fund to earmark that capital for the next stage of your transformation. A transformation fund can create discipline by imposing constraints and raising the hurdle rate for investment. It can also improve agility by enabling faster capital deployment with less organizational friction.
- **Tailor the business case:** Frame the investment proposal around the specific pain points and metrics of the executive sponsoring the initiative (e.g., the chief financial officer, chief operating officer, or chief information officer).
- **Establish a funding cadence:** Develop a repeatable process for identifying, prioritizing, and executing a pipeline of quick-win projects to continuously fuel the transformation.
- Keep a watch on your competitors and pick "unfair fights." Companies should choose battles where they have strategic advantages or the high ground (Quadrant B).

Next, quantify the cost of complexity

The goal is not to eliminate all complexity, but to identify and eliminate the wrong complexity. Leaders must learn to distinguish between the "value of variety"—features customers desire and will pay for—and the "cost of complexity"—self-inflicted burdens that erode value. Begin with a data-driven analysis to identify which products drive profit and which ones only add cost. By quantifying the financial drag of "bad" complexity, leaders can build a clear business case for retiring legacy systems and simplifying processes.

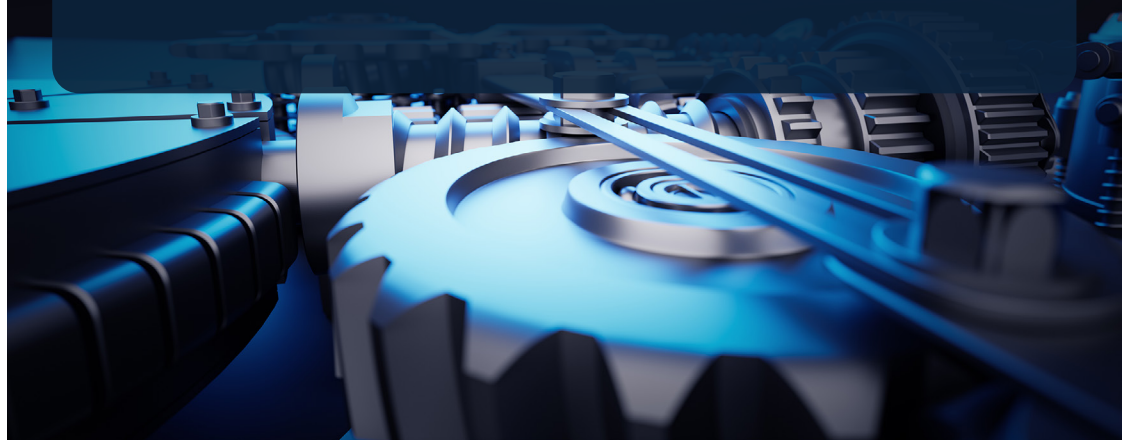


Priority actions:

- **Conduct an 80/20 profitability analysis:** Perform a comprehensive, SKU-level analysis to identify which 20 percent of your products are generating 80 percent of your profit and which are simply adding cost.
- **Expand beyond product portfolio:** Address broader business, operational, supply chain, customer, and service-level complexity.
- **Quantify hidden costs:** Assign a clear economic value to "bad" complexity by measuring its impact on manufacturing (e.g., frequent changeovers), inventory (e.g., carrying costs), and procurement (e.g., supplier fragmentation).
- **Establish a "one-in, one-out" policy:** Empower a cross-functional team that includes teams from sales, operations, and finance to create and enforce disciplined rules for SKU introduction and retirement.
- **Launch a "model plant" proving ground:** Designate a single facility or production line to pilot process standardization and technology solutions. With a focused win around innovation and physical AI, for example, you can de-risk broader investment, accelerate workforce adoption, and create a repeatable blueprint for scaling across the enterprise.

Finally, engineer early, visible culture wins

The most effective antidote to a culture of cynicism is tangible success. The quick strikes used to fund the journey are also the perfect tool for building trust and overcoming resistance. By focusing on visible, near-term wins in controlled areas, leaders can demonstrate the value of new ways of working and build confidence that the transformation is on the right track. This approach should be paired with human-centric technology, such as AI copilots that augment, rather than replace, employee skills.



Priority actions:

- Solve a known frustration: For your first project, target a well-known, long-standing operational pain point. A quick win that makes employees' lives easier is the fastest way to build goodwill.
- Empower frontline champions: Identify influential and respected operators from the factory floor and invite them to codevelop the new processes and technology workflows.
- Deploy "mentor-in-your-pocket" technology: Prioritize human-centric tools, like AI copilots or augmented reality guides, that help employees do their jobs better and build skills.
- Communicate the "why": Articulate a clear and compelling vision for how technology will elevate roles and create opportunities, not just cut costs or eliminate jobs.

Win the game you can control

Manufacturers cannot control tariffs, global labor markets, energy prices, or geopolitical disruption. But they can control how capital is allocated, how complexity is managed, and how culture enables change. The goal is to systematically improve the factors that shape cost structure and competitive position over time, rather than chasing global benchmarks in a single leap.

Even industry leaders at the top of the mountain cannot afford complacency; they must constantly look downhill at agile, hungry competitors poised to overtake them. Staying ahead requires turning the gains of operational efficiency into a continuous engine for innovation.

The Control Matrix provides the framework necessary for exactly this kind of ruthless prioritization. The Flywheel Effect provides the mechanism for sustained improvement. Together, they help manufacturers focus scarce capital and management attention where it matters most—eliminating controllable disadvantages, strengthening existing advantages, and creating a self-reinforcing cycle of productivity and performance.

The winners of the next decade will not be the manufacturers with the most technology, even as physical AI transforms the industry. Instead, the ones that improve the factors they can control—faster than their competitors—will be the ones that turn operational discipline into a durable comparative advantage.

How KPMG can help

Navigating the transition to a more competitive and resilient manufacturing future requires a firm with deep industry knowledge and a thorough understanding of the interplay between strategy, technology, and people. KPMG helps clients break the capital, complexity, and culture stalemate by:

1

Implementing the Control Matrix

We work with leadership to identify and classify capabilities, quantify the cost of complexity, and build a strategic roadmap for investment and transformation.

2

Driving operational excellence

Our teams help clients unlock initial savings by applying lean methodologies, helping optimize the workforce, and redesigning processes to fund the flywheel.

3

Deploying Trusted AI

We help organizations navigate the complexities of AI adoption, from building the business case and managing data governance to implementing "Trusted AI" frameworks that address bias, security, and the "trust gap" to accelerate adoption.

4

Managing human-centric change

We specialize in guiding the cultural and organizational shifts required for transformation, helping ensure that technology augments the workforce and that employees are equipped for the future of work.

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Todd Dubner has more than 25 years of experience in strategy and corporate development. He has advised clients in the IM sector on growth strategies, merger and acquisition (M&A) strategy and execution, business transformations, performance improvements, and organizational effectiveness topics. Currently, Todd primarily serves the automotive, aerospace and defense, and logistics subsectors, consulting on passenger and commercial vehicle original equipment manufacturers, Tier 1 suppliers, defense primes, government services providers, and fleet operators. Todd has coauthored several KPMG whitepapers studying impacts of autonomy and mobility services on the automotive and transportation industries.

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