Kepner-Tregoe

Thought Leadership Series | Organizational Thinking in the Age of AI

OPERATIONAL EXCELLENCE ISN'T A CALM-WEATHER STRATEGY

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Most operational excellence programs are built and tested under the same conditions: stable demand, predictable supply, adequate staffing, and enough slack in the system to absorb minor variation. The processes are documented under these conditions. The metrics are calibrated against them. The training is conducted in them. And for as long as those conditions hold, the programs work.

Then conditions change, and a striking number of operational excellence programs reveal themselves to have been calm-weather strategies all along. The processes that performed well under stable conditions degrade rapidly under disruption. The metrics that looked strong stop reflecting what is actually happening on the floor. The training that built confident operators in routine conditions did not build the capability to think clearly when conditions stopped being routine.

This is a structural problem, not a failure of effort. Most operational excellence methodologies, including widely adopted frameworks like Lean and Six Sigma, were designed primarily to reduce variation and eliminate waste in stable, repeatable processes. They are exceptionally effective at that task. They were not designed to build the organizational capability to think clearly and act decisively when the process itself breaks down, when the inputs are no longer what the standard work assumed, or when a novel disruption falls outside every documented procedure. That capability requires a different kind of investment, and most organizations have not made it.

Why Calm-Weather Excellence Fails Under Pressure

The mechanism behind this failure pattern is well understood in organizational research, though it is rarely named explicitly in operational excellence programs. Standardized work, the foundation of most continuous improvement methodologies, is built on the assumption that the process inputs and conditions are sufficiently stable and predictable that a defined sequence of steps will reliably produce the desired outcome. This assumption holds remarkably well under normal operating conditions, which is exactly why these methodologies have driven such significant performance improvements across manufacturing and operations for decades.

The assumption breaks down precisely when it matters most: during supply disruptions, equipment failures outside the maintenance plan, demand shocks, workforce disruptions, or any condition that the standard work did not anticipate. In these moments, the organization needs something the standardized process does not provide: the capability to diagnose what is actually happening, generate and evaluate response options under incomplete information, and make decisions under time pressure without the benefit of a predefined procedure.

Research on high-reliability organizations, a field developed initially through the study of nuclear power operations, aircraft carrier flight deck operations, and air traffic control, has identified this gap precisely. Karl Weick and Kathleen Sutcliffe, whose work on high-reliability organizations remains foundational in this field, found that the organizations that performed most reliably under disruption shared a specific set of characteristics: a preoccupation with failure rather than complacency about success, a reluctance to simplify interpretations of ambiguous situations, sensitivity to frontline operations, commitment to resilience over rigid adherence to plan, and deference to expertise over hierarchy when conditions became uncertain.

Source: Weick, K.E., and Sutcliffe, K.M., Managing the Unexpected: Sustained Performance in a Complex World, Jossey-Bass, 2007.

None of these characteristics describe what most operational excellence programs train for. They describe a different and complementary capability: the discipline of thinking clearly and adapting deliberately when the standard process no longer applies. Organizations that have built strong continuous improvement capability but have not built this complementary capability are well prepared for normal variation and poorly prepared for genuine disruption. And disruption, by definition, is exactly when operational performance matters most.

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The Cost of the Gap

The cost of this gap shows up disproportionately during the events that matter most to enterprise performance: major quality incursions, supply chain disruptions, safety incidents, and significant unplanned downtime events. These are precisely the events where the financial and reputational stakes are highest, and precisely the events where standard operating procedures provide the least guidance.

Supply chain research conducted in the years following the major disruptions of the early 2020s found that organizations with mature continuous improvement programs did not consistently outperform less mature organizations in disruption response. The capability that differentiated strong performers under disruption was not process maturity. It was decision agility: the demonstrated ability to rapidly reassess priorities, generate viable alternatives under incomplete information, and commit to action without waiting for full consensus or complete data.

Source: McKinsey & Company, Global Supply Chain Resilience research, 2021-2023.

This finding should reframe how operations leaders think about investment priorities. A continuous improvement program that has driven genuine efficiency gains under stable conditions represents a real and valuable capability. It is not, by itself, a complete operational excellence strategy. The organizations that consistently outperform across both stable and disrupted conditions have made a second, distinct investment: in the structured thinking capability that activates when the documented process no longer applies.

The financial case for this investment is asymmetric in a way that is easy to underestimate. The capability to think clearly under disruption is rarely used in any given week or month. When it is needed, the cost of not having it can be enormous: a misdiagnosed quality event that escalates into a regulatory action, a supply disruption response that makes the situation worse rather than better, a safety incident where the wrong priority was addressed first. The return on this investment is concentrated in low-frequency, high-severity events, which is exactly the category of risk that conventional ROI calculations tend to undervalue.

What Disruption-Ready Operational Excellence Looks Like

Building this complementary capability does not require abandoning continuous improvement investments. It requires extending them to cover a category of performance that standardized work alone does not address.

The first element is structured situation appraisal as a standard practice, not just a crisis response. Teams that practice rapid, disciplined assessment of unfolding situations during routine operations, identifying what is known, what is assumed, and what requires immediate attention versus what can be deferred, build the capability that becomes critical during genuine disruption. This practice should be embedded in daily operations reviews, not reserved for incident response.

The second element is structured problem-solving discipline that operates independently of the standard work documentation. When a deviation occurs that the standard work did not anticipate, the team needs a reliable method for diagnosing root cause that does not depend on having a predefined procedure for the specific failure mode encountered.

This is the diagnostic discipline examined in Articles 1 and 2 of this series, and it is precisely the capability that activates when standardized work runs out of answers.

The third element is decision-making capability under genuine uncertainty, distinct from the decision support built into standard operating procedures. Standard procedures encode decisions that have already been made for anticipated scenarios. Disruption-ready organizations also build the capability to make high-quality decisions for scenarios that were not anticipated, using structured frameworks for clarifying objectives, generating alternatives, and evaluating tradeoffs under incomplete information, as examined earlier in this series.

The fourth element is cross-functional communication protocols that function under stress. The Apollo 13 case examined in Article 5 of this series demonstrated the value of shared language and structured information sharing under extreme pressure. The same principle applies, at lower stakes but with real financial consequence, to a manufacturing line down event, a quality excursion under investigation, or a multi-site supply disruption. Organizations that have practiced structured communication under routine conditions communicate more effectively when conditions are not routine.

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A Different Way to Evaluate Operational Maturity

Most organizations measure operational excellence maturity through metrics calibrated to stable conditions: defect rates, cycle times, overall equipment effectiveness, on-time delivery. These metrics are valuable and should continue to be tracked. They are also, by design, measuring performance under conditions where the standard process is functioning as intended.

A more complete maturity assessment asks a different question: how does this organization perform when conditions deviate from the standard process? This requires different evidence. How quickly does the organization correctly diagnose a novel deviation, as opposed to misdiagnosing it and addressing the wrong cause? How does decision quality hold up when a significant disruption requires action under incomplete information? How effectively do cross-functional teams coordinate when the standard escalation path does not cleanly apply to the situation at hand?

Organizations that build the discipline to evaluate this dimension of operational maturity, alongside their continuous improvement metrics, develop a more accurate picture of their actual resilience. They also tend to identify investment gaps that standard operational excellence dashboards do not surface, because those dashboards were designed to measure performance under the conditions the standard work assumes, not the conditions where standard work runs out.

Building Resilience as a Strategic Investment

Operational excellence that performs reliably only under stable conditions is not a complete strategy. It is the foundation of a complete strategy, and an important one. But foundations are not the whole structure, and organizations that treat continuous improvement maturity as the entirety of operational excellence are systematically underinvesting in the capability that matters most when stakes are highest.

The organizations that perform consistently well across both stable and disrupted conditions have made a deliberate choice to invest in both capabilities simultaneously: the process discipline that drives efficiency under normal conditions, and the structured thinking discipline that activates when conditions are not normal. These are complementary, not competing, investments. The strongest operational organizations do not choose between them. They build both, deliberately, as part of a unified operational excellence strategy.

Calm weather is not guaranteed, and it is not getting more common. Supply chains remain volatile. Regulatory environments shift. Equipment ages in ways that create novel failure modes. Customer expectations evolve faster than standard processes can be revised. The organizations that will perform best over the next decade are not the ones betting that conditions will remain stable. They are the ones building the capability to perform well regardless of whether conditions hold.

Operational excellence that only works in calm weather was never a complete strategy. It was a bet on conditions the organization could not control.

NEXT IN THE SERIES

Article 7: Why Leaders Who Think Out Loud Build Stronger Organizations

Disruption-ready operational excellence depends on more than process and frameworks. It depends on how leaders model thinking under uncertainty for the people watching them. Article 7 examines why the leaders who make their reasoning visible, who narrate the questions they are asking and the assumptions they are testing rather than presenting only conclusions, build organizations with stronger collective judgment. Transparent reasoning is not a communication style. It is a culture-building discipline, and it is one of the most underused tools available to senior leaders.

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About Kepner-Tregoe

For more than sixty years, Kepner-Tregoe has helped organizations solve problems, make decisions, manage risk, and build cultures of critical thinking. KT's structured methodologies -- Situation Appraisal, Problem Analysis, Decision Analysis, Potential Problem Analysis, and Potential Opportunity Analysis -- provide the thinking infrastructure that allows leaders and teams to perform at their best when it matters most.