



# Operational Excellence through Organizational Discipline



Operational Excellence is a broad term that encompasses a variety of programs and initiatives. Improvements often occur with Lean, or Six Sigma, initiatives that are designed to fix problems, eliminate waste and create consistency in standardized processes.

Operational excellence is much more than these approaches, however, and includes a continuous desire to improve company operations and productivity. It is a process that requires innovation with both employee and customer engagement to create continuous improvement.

Manufacturing organizations have cultures that thrive on routine and consistency and often have difficulty changing the mindset of “that’s the way we’ve always done it” to adjust procedures and strive for further performance improvement. Sometimes, an external prompt is helpful to avoid being “stuck in a rut” and focus your attention on the future. The Kepner-Tregoe (KT) approach leverages the knowledge of your site staff about the issues, and challenges your employees to develop solutions to overcome them. KT can help you identify and address the specific problems that must be resolved to experience the perfect run and perfect day and achieve the operational excellence you have envisioned.

### Root-Cause & Problem-Solving Fundamentals

Operational excellence is a journey, not a sole destination. As you travel this path, there are a variety of skills, techniques and methods you will employ to help address the unique situations you encounter. Key to this, and underpinning every operational excellence journey, are the fundamentals of root-cause analysis and problem solving.

#### Root-Cause Analysis

There are several reasons for the current operational methods and outcomes at your organization, and an equal number of reasons your manufacturing operations are not perfect. Root-cause analysis requires separating the symptoms from the causes, understanding how the various components interact with each other and determining where improvements must be made.

Modern manufacturing operations are complex – a change in one place could impact the entire system.

Understanding the true root cause of most issues requires untangling complex systems and their dependencies – often including the participation of multiple parties that must be coordinated. The impacts of both the original issue and any corrective activities can be widespread. The risk of being wrong about the root cause and/or not understanding the consequences of resolution options can lead to solutions being implemented that aren't in the best interest of the company. In some cases, fixing the root cause of the issue might not be the best solution.

#### Problem Solving

Problems in manufacturing operations should not be (but often are) solved in isolation or on a blank sheet of paper – problems have context and a history that must be considered. Applying analysis, innovation and creativity to the problem-solving process can help your employees look beyond the obvious to discover the truly impactful opportunities for improvement. Data, problem-solving processes and structured decision-making techniques are all helpful inputs to enable your employees to understand the overall environment in which problems exist, and apply their knowledge and experience to develop solutions.



Effective problem-solving requires the involvement of some of your best people, so optimizing the use of their time is essential. Conflicting priorities, constrained resources and collaboration challenges make it difficult to apply the right problem-solving resources. By treating problem solving as a fundamental operations process, you not only overcome these challenges, but also you enable scalability to address more complex problems, manage multiple problems in parallel and balance long- and short-term impacts effectively.

These fundamentals of operational excellence are about changing the culture of your manufacturing organization, so it's focused on continuous improvement and making the future better. Training, process,

best-practices and coaching are some of the key resources available to you to improve root-cause analysis and problem-solving fundamentals in your organization. These are all particularly effective in manufacturing environments because they leverage the inherent culture of routine and consistency – once the fundamentals are introduced, the organization is well positioned to execute on them.

### Improving Operational Maturity through Process and Best Practices



Root-cause analysis and problem-solving capabilities are not enough to achieve your operational excellence vision. These fundamentals must be embedded in the daily discipline of operations, including your staff activity on the shop floor, your supply chain, the equipment you use, the activities being performed and the manufacturing processes being executed.

### Continuous Improvement

Continuous improvement starts with front-line staff focused on improving outcomes each day. Lean and Six Sigma programs are givens for most manufacturing organizations today, and most manufacturing staff have at least a broad understanding of the concepts and terms that each employ. Both methodologies are applied broadly across manufacturing operations and build on the common foundations of root-cause analysis and problem solving. Often, staff members struggle to explain how they work in concert with each other. KT's operational-excellence methodologies offer logic and a common language to weave these approaches together to enable you to receive more value from each of them. The [JCI story](#) (now part of Yanfeng) is an example of the benefits that KT can bring to a manufacturer's continuous improvement effort, and how leveraging Kepner-Tregoe became part of JCI's continuous improvement journey.

A key to achieving results in your continuous improvement effort is embedding key activities in the daily disciplines of your employees. Lean consultants commonly recommend "Plan Do Check Act," [Practical Problem Solving](#) and [concern strips](#) as methods to engage your staff directly in the continuous improvement process. Measures, such as Overall Equipment Effectiveness (OEE), can further enhance these daily disciplines by putting observations into the context of their overall impact to operations, and guide staff to employ priority tools, such as KT Situation Appraisal, when they need to prioritize action items, or KT Problem Analysis, to determine why something is broken.



Continuous improvement is more than a process. To be effective in helping you achieve your operational excellence aspirations, cultural change is required – with knowledge, process and behaviors interconnected in the context of the operating environment. Just as in Six Sigma (with yellow belt, greenbelts, blackbelts, master blackbelts, sponsors, etc.), KT process and thinking promotes the idea that everyone should be involved. Including experts and facilitators in the continuous improvement program is critical to ensure success. When KT is deployed well, internally trained KT coaches and KT facilitators interact with staff to inject as much or as little KT process as needed.



Improving operations to move closer to that perfect day requires picking the best “tools” for the problem at hand. If the need is to reduce downtime, qualify issues and improve consistency, then organizations might use Six Sigma. If the need is to improve process efficiency, reduce waste and optimize activities, such as shift handovers, then they might use Lean. As stated above, KT offers the logic and common language to use both Lean and Six Sigma effectively. The book by Lonnie Wilson, [How to Implement Lean Manufacturing](#), is a great source to understand how KT interacts with Lean and Six Sigma.

### Targeted Performance Improvement (TPI) with People

If everything is important—nothing is important. There are more activities and opportunities in the world. When the cause of a problem (or set of problems) has been determined (or at least narrowed to a specific area), Targeted Performance Improvement (TPI) techniques provide a structure to use the knowledge and skills of your employees to address the problems directly that are blocking you from achieving the vision of Operational Excellence. TPI examines a specific process or scope area with the goal of driving improvements where problems are known to exist. It can be applied to problems with a part or a piece of equipment, a specific quality issue, scheduling/handover issues, downtime, inventory issues and many other common manufacturing problems.

A key differentiator of Targeted Performance Improvement from other methods is that it can enable companies to achieve results, often without spending capital, by focusing on the human resources already present in the organization. This not only leverages the resources you have, but also it provides opportunities to expand the skills and experience of your employees to enable even greater value in the future. In a TPI initiative, a select set of individuals are tasked to achieve a measurable and sustainable improvement during a discrete period of time (usually no more than 3 months). Many of these individuals would have extensive, existing technical expertise, or be considered masters in their area while others will develop and refine that expertise during the targeted performance improvement effort. A few critical initiatives are quantified and baselined in terms of tangible value. More often, it is about capacity increase or cost reduction, which enables a clear decision to be made on the value of further investment.

The basic steps of Targeted Performance Improvement are:

1. Perform a diagnostic assessment to understand the state of the operations.
2. Identify the levers that can enable the organization to achieve the intended result

3. Assemble a short-term team to work on the outputs of the diagnostic assessment.
4. Develop road maps to define how results will be achieved.
5. Empower a team leader to deliver the desired results during a period of a few months.



The last step is critical and one of the key differentiators of the KT Targeted Performance Improvement method – skills take on a stickiness because the team leader is embedded in the process and learning as the process progresses. By focusing on developing skilled leaders who are able to facilitate effectively and repeat the TPI process, improvement benefits can be sustained for the organization well after the project has been completed – sustainable improvements and sustainable skills.

## Modern Trends Provide New Hope for Achieving Operational Excellence

Fundamentals, best practices and targeted improvements provide high-potential materials for building operational excellence; however, cultural shifts and technological developments enable companies not just to aspire to experience “the perfect day” once, but also provide hope that it can be established as the new norm, and achieved every day. Technology developments, such as IoT, operational technology, remote sensing and enhanced analytics, so operators are able to manage processes using a screen of monitors and alerts, enable better, faster identification of issues, diagnosis and problem resolution.

Enhanced automation is enabling more decisions to move to the shop floor – giving frontline employees the information and tools they need to solve complex problems effectively. This is powerful because the shop-floor employees are the operators who know the processes, products and equipment best, and can combine their vast experience and intuition with a new (technology-enabled) toolset to leverage the best of both. Empowering these employees to take actions can dramatically increase issue-resolution time by moving decision making closer to the actual operations.

## Take the First Step on your Path to Operational Excellence

Operational Excellence is a journey, not a destination. The journey involves leadership and strategy as well as execution – doing the right things and doing them right. While the perfect day for your manufacturing organization may seem unachievable, the path starts with taking the first step. The good news is that you don't have to take the first step alone. Kepner-Tregoe has guided many companies on the journey and have learned much on the way. To learn more about the operational excellence journey, read the whitepaper [“Path to Operational Excellence.”](#)



The Kepner-Tregoe framework for high-reliability organizations can help you travel the path to operational excellence by focusing employees on their destination, not just where they are today. The first step to achieving that “perfect day” (the happy place for your manufacturing organization) is to bring clarity to what success looks like and then to identify the barriers to your success. By overcoming these barriers through the enhanced fundamentals of root-cause analysis and problem solving; implementing processes, techniques and best practices; and leveraging the skills and experiences of your people to achieve and sustain results – the vision of Operational Excellence can become a reality.

### About Kepner-Tregoe

Founded in 1958, and based on ground-breaking research regarding how people think, solve problems, and make decisions, Kepner-Tregoe provides a unique combination of training and consulting services to improve quality and effectiveness while reducing overall costs. The KT methodology is used at every level of client organizations: to implement strategy, achieve continuous improvement, increase customer satisfaction, and drive effective issue resolution throughout the organization.

