

Speed and Quality: Why you can't treat Lean and Six Sigma separately.

Achieving stable flow requires integrating speed with predictability on the shop floor.

LeanSixSigma · ProcessStability · OperationalExcellence · ManufacturingOperations

The newsletter for operations leaders who prefer process stability over rushed, temporary gains.



The Core Misunderstanding: Why Tools Don't Mix

There is a common trap that falls into the hands of many manufacturing leaders today: treating Lean and Six Sigma as two separate toolboxes you pull off the shelf depending on what "problem" you are trying to solve this week. It's a common mistake, but it is fundamentally flawed. You cannot treat them as orthogonal disciplines; they are not different sports played by different teams. They are two halves of the same engine.

Lean is about the removal of waste—the unnecessary motion, the over-processing, and the inventory piling up in the aisles because someone thinks "just-in-case" is a valid strategy. Six Sigma is about the reduction of variation—ensuring that when you do something, you do it exactly the same way every single time.

When you separate them, you get broken results. If you only lean out your processes without applying any rigor to variance, you are simply making waste happen faster. You've removed the "fat," but the machine is still vibrating so much that parts fall off. If you only apply Six Sigma without a Lean focus

on flow, you end up with high-precision products that sit in boxes for weeks because your process isn't designed to move.

A lean process that isn't stable is just a fast way to produce scrap. A stable process that isn't lean is an expensive way to create bottlenecks. You don't need "Lean" on Mondays and "Six Sigma" on Tuesdays; you need the integration of both every second your machines are running.

What Stability Actually Looks Like on the Floor (and what you think it looks like)

We often mistake activity for stability, or speed for flow. I call this **The Speed Mirage**. It's that feeling in a plant when things seem to be moving quickly—parts are moving down the line, operators are busy, and numbers on a dashboard look okay today—but if you walk the floor three months later, those gains have evaporated into "workarounds" and process drift.

True stability isn't about how fast an operator can move their hands; it's about whether the process produces the same result regardless of who is running the shift or what time of day it is.

Look at a cell where you've "leaned out" the movement, but haven't addressed the variation in the torque settings on a critical fastener. The line moves fast today because everything happens to be within tolerance. But eventually, that lack of control will manifest as a quality escape or a sudden stop when a tool wears down and no one has a standard for it. That isn't speed; it's luck.

Conversely, look at a station where you have perfect Six Sigma controls—the Cpk is beautiful, the tolerances are tight—but because there's too much "hidden" waste in the setup or transportation of parts, the overall output is sluggish and unresponsive to demand. That isn't quality; it's stagnation.

Stable flow is the point where a process has been stripped of its waste (Lean) and reinforced against variation (Six Sigma). It means that when you look at the line, you see a rhythm that doesn't require "heroics" from the operators to maintain. If your team has to work harder or faster just to keep up with yesterday's numbers, your process isn't stable; it's just barely hanging on.

Where Separation Fails: The Cost of Partial Fixes

When you choose only one side of the coin, you create a "partial fix." These are comfortable for management because they offer immediate gratification, but they fail to build an enduring operating system.

Below is how these two paths diverge when they aren't integrated into a single strategy:

Approach	The Promise	The Reality on the Floor
Lean-Only (Speed without Control)	"We are cutting waste and moving faster."	You get a fast line that produces inconsistent parts. Operators become frustrated because they have to "fix" things constantly, leading to a culture of shortcuts and hidden rework.

Approach	The Promise	The Reality on the Floor
Six Sigma-only (Control without Flow)	"We are ensuring perfect quality every time."	You get a perfectly controlled process that is slow, over-engineered, or burdened by excessive documentation and manual checks just to keep the "stats" in line.
Integrated Stable Flow	"We are building a predictable system of production."	The process is lean because it removes waste; it is stable because any deviation from the standard is caught immediately. It requires less effort to maintain over time.

The cost of a partial fix is almost always paid in "drift." If you only focus on Lean, your processes will drift toward variability. If you only focus on Six Sigma, your process will drift toward complexity and bureaucracy. You cannot have one without the other if you want a sustainable operation.

The Integrated System: Building the Stable Flow Operating Model

To move past the "tool-switching" trap, you must adopt an integrated model where variation control is baked into every step of lean improvement. It isn't something you add at the end; it's part of the foundation. Here is how we build that system:

1. **Define the Standard as a Constraint:** Before you "lean out" a movement, you must define exactly what a successful move looks like in terms of tolerance and repeatability. If a task can be done three different ways to get the same result, it isn't standard work; it's an invitation for variation.
2. **Identify Waste as a Symptom of Instability:** Often, "waste" is just a byproduct of a process that isn't under control. For example, excess inventory in a bin isn't always a failure of Lean logic; often, it's a buffer against an unreliable upstream process. Instead of just shrinking the bin (Lean), you must find out why the upstream process varies so much (Six Sigma).
3. **Simplify for Stability:** A complex setup is harder to control. Any step in your process that requires "judgment" from an operator is a point where variation can creep in. Use Lean principles to remove unnecessary steps, and use Six Sigma logic to ensure the remaining steps are repeatable by anyone on the team.
4. **Implement Layered Process Audits (LPA):** Instead of waiting for a monthly quality audit, perform daily "walks" that check both flow and precision. Are we moving parts? Yes. Are they being moved according to the standard? That is the question your leadership must ask every day.
5. **Feedback Loops as Guardrails:** Every point where an operator has to make a decision based on a measurement should have a clear, documented reaction plan. If the process drifts out of spec, there shouldn't be a debate about what to do; the "Standard" tells them exactly how to bring it back into alignment.

Daily Audits for Stability: What to Look For Tomorrow

When you walk your floor tomorrow, stop looking just at "speed." You can measure speed with a stopwatch, but you can't see stability on a clock. To find where the integration is failing, look for these three specific indicators of instability:

1. The "Workaround" Evidence. Look for taped-up notes, unofficial marks on the floor, or tools left in convenient (but non-standard) places. These are signs that your Lean process isn't robust enough to handle real-world variance. If an operator has to "tweak" something to make it work today, you don't have a stable flow; you have a broken standard.

2. The Scrap and Rework Bin. Don't just look at the volume of scrap. Look at *why* it happened. Was it a one-time fluke (special cause), or was the process drifting toward the limit because the controls aren't tight enough? If you see "rework" happening daily to keep things moving, your Lean improvements are being undermined by a lack of Six Sigma control.

3. The Setup Time Drift. During your next Gemba walk, watch a changeover or a tool swap. Does it take the same amount of time every time? If it's fast on Monday but slow on Friday because "the parts were sticking" or "someone was out," you have a variation problem in your setup process.

Your Action for Tomorrow: Pick one station that feels like it's "struggling." Don't ask the operator how they are doing; watch them work. Identify one step where they have to make a choice or use some judgment. That is your point of intervention. Replace their judgment with a standard and a clear, visual instruction.

Moving Beyond Toolkits

The goal isn't to become an expert in Lean tools or Six Sigma methodologies. The goal is to build an operating system for your plant that produces high-quality goods reliably and efficiently every day.

When we treat these as separate "tools," we end up with a collection of tactics—a few successful projects here, some clever shortcuts there—but no underlying stability. It's like trying to build a house by picking out nice tools but never actually following an architectural plan.

A truly mature organization recognizes that Lean and Six Sigma are not things you *do*; they are the disciplines you live by. You aren't just "doing Lean" to move faster; you are building a stable process so your people don't have to work harder than necessary. You aren't just "doing Six Sigma" to hit a target; you are establishing the discipline that ensures those targets stay met tomorrow, next month, and next year.

Stop looking for which tool to grab next. Start building a system where speed and quality are not in competition, but are two sides of the same coin: **Stable Flow**. When your process is stable, it is inherently lean. When your process is truly lean, it must be stable. Anything less is just a temporary fix that will eventually wear out under the pressure of reality.

Call to Action

What single point of friction in your operation—the variability or the wasteful movement—is costing you the most right now? Share this diagnosis with a colleague who needs to see it.

Newsletter replies: newsletter@sixsigmakaizen.com · X: [@kaizen_6sigma](https://twitter.com/kaizen_6sigma)

Stay curious, stay improving,

David Rodgers

SixSigmaKaizen.com

References: DMAIC (Define, Measure, Analyze, Improve, Control); Six Sigma Principles; Lean Thinking; Standard Work

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