

Values and Behaviours in a Lean Organisation

A White Paper
3 February 2017

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1. Introduction / Background

Perhaps your organisation has never heard of lean. Perhaps you have, but you aren't sure if or how it might help. It may be that you have dabbled with some lean tools. Or you could be on a full-fledged lean journey. These are all perfect starting points; after all, a journey of a thousand miles starts with a single step. And even if you're already on a lean journey, you know that you still have a thousand miles to go.

Exactly how to go about sustaining a lean journey, however, is often an unanswered question; most lean reference texts focus on lean tools or lean case studies. Unfortunately, very few focus on the critical core elements of how to make the lean journey successful over the longest haul.

2. Abstract / Business Case

A lean journey can transform your business (or your competitor's) into a formidable force. But what enables Toyota's famous production system to consistently outperform those of its competitors isn't the tools you read about or see when visiting a lean operation.

Yes, the tools help us get the job done, but far more important than tools are the invisible driving values and behaviours that guided pulling the tools out of the box and putting them into motion in the first place.

Put another way, anyone can pick up a spanner to pound in a screw. Wrong tool, wrong action for the problem at hand.

Only when we understand the correct values and behaviours can we select the correct tool and deploy it correctly to solve a problem. The values and behaviours are what make lean work and stick in sustainably lean organisations.

The five values and five behaviours aren't complicated. At first glance, they appear to be a random collection of hastily assimilated platitudes.

But in a lean organisation they constitute an inviolable 'true north'; not only do they bump up against and guide every decision, but more importantly, they also tell us where to keep looking for more improvements.

3. Problem Statement / Introduction

Lean journeys are started every day, by very well-intentioned organisations. Lots of planning, budgeting fanfare and re-allocation of people are involved, and it appears that everyone is excited. There are some early 'quick wins,' which are celebrated and broadcast, and very soon everyone thinks that lean is easy, fun and somewhat intoxicating.

At some point, usually only a few weeks or months down the track, things change. The real stories behind those early quick wins come out, and soon the grapevine drowns out the official messages about how the lean journey is going.

And nowhere between the propaganda and the grapevine is there anything that people can relate to. No simple, core beliefs that help guide daily lean decision making are made available to help them understand what they've really been signed up to do.

But the lean 'journey' pushes on, arduously driven by invisible forces that want more results but don't understand exactly how to keep getting them, and executed by people who don't know why they've been chosen to help or exactly how they're supposed to.

It's easy to envision how things go after that.

But this scenario doesn't have to happen. In fact, it can happen, ideally, in the exact opposite manner.

4. Proposed Solution/s

a. Introduction

What guides the heart and the mind of an organisation is far more important than what guides its hands as it works through the daily tasks that are supposed to move it closer to its mission or vision. On any given day, our hands can bash away at productive work, at problems, and even at solutions to those problems. Sometimes those solutions work, at least for a while, and sometimes they don't. Often those 'solutions' are simply bandages being applied to a much larger problem than we really thought we had.

If we'd realised the size of the actual problem in the first place, we might have thought twice about applying the bandages we selected. But how do we know what the problem is or how big it is in the first place? And once we do know, how can we know how to fix it? These are critical questions to understand before we even think about picking up a tool to start addressing the problem. This is also the case with lean tools, which can cause more harm than good if they are put into the hands of organisations or people whose hearts and minds aren't aligned with lean Values and Behaviours.

The Values and Behaviours that exist within sustainably lean operations simultaneously help guide every aspect of problem identification as well as every aspect of determining which solution/s will work to reduce or eliminate the problem.

Sometimes, however, there are no apparent problems. Every now and then things go really well, even if only for a couple of days, weeks or months. This could be due to luck, or it could be due to having systematically solved the problems that prevented operation at a smooth, steady pace.

Whilst a smooth, steady pace might be nice, at least for a while, it is generally not a good recipe for staying in business. This is where the lean Values and Behaviours also come in handy; not only do they help us seek out the correct way to solve problems, they also serve as 'urge points' that motivate proactive movement away from the current state toward higher and higher levels of achievement.

Of course the journey to higher levels of achievement will of necessity create a whole new set of problems, solutions, opportunities, actions and outcomes. So the Values and Behaviours function as a 'closed loop' system for both assessing and solving current problems as well as for identifying and launching next step opportunities for improved organisational achievement.

In most sustainably lean organisations the Values and Behaviours aren't explicitly written down or plastered on walls for people to read if they feel so inclined: they are lived. Every decision, every opportunity, every action and every outcome is evaluated against them in order to verify that the correct things are being done.

Even if those decisions, opportunities, actions and outcomes can't be measured, the Values and Behaviours, either alone or in any number of combinations, provide an instant 'sense check' for validating expected outcomes.

b. Application of Solution

The five Values are:

1. Work in a standardised and safe way.
2. Never pass on poor quality to the next process.
3. Pull material and work as it is needed.
4. Level out all activities across the available time.
5. Always look to the long term.

The five Behaviours are:

1. Go, see and study.
2. Challenge the status quo.
3. Respect the individual.
4. Work as a team.
5. Kaizen (continuous improvement).

c. Examples of Application – the five Values

1. Work in a standardised and safe way.

No one will argue that safety shouldn't be the most important aspect of every operation every day. It almost seems unnecessary to even include it here; the human and financial costs of injuries (of any type) are too great for safety to not be front and centre of any vision or mission statement, any KPI regime or any set of operating principles. Duh.

But positioned in this first lean Value, right beside (and equivalent to) safety, is standardisation. The two go hand-in-hand; if a process is standardised, and everyone on all shifts who executed that process yesterday did so the exact same way every time and no one was injured, it could reasonably be expected that that process will be safe to execute tomorrow, as well as every day after that, until the standard is consciously changed.

How often do incident or near-hit investigations uncover operation outside of standard? Did a documented, detailed Standardised Work Instruction (not a simple Standard Operating Procedure) exist that could be followed exactly as it was written? If it did, was the operator trained to the current level of Standardised Work Instruction? If neither, which is typically the case, the blame lies squarely on the lack of standardisation, in either documentation or training. Ultimately this problem leads back upstream to lack of understanding of the importance of standardisation at the top levels of the organisation.

Standardisation is also a double-edged sword. Whilst it helps ensure that the best (and safest) current work method is in place and in use, without it *there can be no improvement*.

In the absence of standardisation, everyone has his or her own 'best way' to get their work done. This generally makes it impossible to determine which 'best way' is the safest, fastest, easiest, highest quality or most environmentally friendly, if any. It also makes it very difficult to quantify asset utilisation and capacity requirements, and if a product or process error escapes to the customer, without standardisation the search for a root cause is akin to looking for a needle in a haystack.

Worse yet, if new employees are being trained by operators who have their own 'best way,' poor (non-standardised) work habits may be passed along to unwitting individuals who could find themselves generating defects, missing targets or being injured through no fault of their own. For the latter, the business, not the individual will always bear the emotional blame and scarring, even if the court doesn't find it to be financially liable.

With standardisation, however, everyone can always perform a process to the same level all the time. This actually gives rise to improvement; if someone comes up with a 'better way' of executing the process, the 'better way' can be carefully trialled and verified, the Standardised Work Instructions can then be updated and everyone can be trained to the new standard so that everyone can work more effectively, safely, etc. Rather than non-quantifiable 'best way' point improvement this gives across-the-board improvement that is immediately quantifiable.

Look back through your safety history and for each incident or near-hit ask whether the victim or the people involved were working according to a documented standard. Walk out into your factory, office or warehouse and see if you can find two people executing the same process in the exact same way. Look at last quarter's quality report and ask if the defects that were caught were the result of non-standardised processes. Look at last week's production actual vs. plan and ask why they were different. These are all symptoms of no or poor standardisation, which in most cases can be remedied.

And after all that hard work putting repeatable, standardised processes in place, in a very short time they will become obsolete if coalface leaders aren't systematically auditing work against the standard to verify compliance, to catch backsliding and to capture the little improvements that people inevitably come up with along the way. Team Leader working menus/leader standard work sheets should always be updated to include frequent, periodic standardised work audits, updates and cross-training if standardised processes are to be sustained and improved.

Standardisation is never easy, but it must be done in order to remove randomness from processes and enable them to operate with precision and repeatability.

2. Never pass on poor quality to the next process.

In a conventional organisation the mentality toward quality is generally along the lines of "people make mistakes, so if we trained them better, or if they simply paid more attention, there would be fewer mistakes." So lots of time and effort is spent in training people, only to have errors repeat.

In a lean organisation, it is recognised that *errors occur because the current process allows them to*. This approach places blame squarely on the process, or lack thereof. Blame is never, ever laid on the person. (More on that later.)

Manual processes that aren't standardised are generally the worst offenders when it comes to generating quality errors, but for processes that are fully automated things can still go wrong. Variation in raw materials, operating conditions, maintenance conditions, etc. can all sneak into play at any time, even if all of them are standardised and controlled accordingly.

And no matter whether processes are manual, automated or a mix of the two every operator *must* know what constitutes acceptable quality to his/her downstream operation. Often it is unclear to operators what 'good' is, and if downstream internal customers simply accept and rework poor quality from upstream processes, this tells upstream processes that their output is 'good.'

Does your organisation rush to meet deadlines, require people to multi-task, tolerate open-loop communication or provide ambiguous or unclear understanding of internal and/or customer requirements? When combined with non-standardised processes and operating conditions, these generally result in process errors at some time or another.

This is not to say that we should be performing wasteful inspection activities at the end of each process step; inspection only adds cost to the product, as quality can never be 'inspected into' products or services. Rather, we should focus on preventing errors from occurring in the first place.

The cost of poor quality generally goes up by a factor of ten for each step in the process. So if it costs five cents to prevent a quality problem in moulding it will cost 50 cents to fix it in tempering, five dollars to fix it in aftercast, fifty dollars to fix it in shipping and 500 dollars to fix it after it escapes to the customer. So the best place to prevent errors from costing more than five cents? As far upstream as possible, for every process.

To do this a lean organisation, focussing specifically on the process, applies the 3D's of error proofing: recognise there is a Defect, create a Detection method, and then Design an error-proofing mechanism. Within the Design effort there should be a hierarchy of error-proofing:

- a) Make it impossible to create the error.
- b) Make it harder to make the error.
- c) Make it obvious that the error has occurred.
- d) Make the system so robust that an error will have no effect if it occurs.

Even if these could be consistently and systematically applied to all processes, in a lean organisation there is constant change across the value stream as local improvements are trialled and implemented. In an environment of constant change, it is impossible to foresee how any combination of these local changes might affect upstream or downstream processing, so it is critical that everyone maintains heightened error detection vigilance.

This is where the lean Value of never passing on poor quality comes into play. When everyone across the organisation is constantly on the lookout for quality or processing problems there will be a constant stream of opportunities to apply the 3D's in order to systematically reduce or eliminate errors.

The best way to get the stream of error reduction opportunities turned on and to keep it flowing is a simple andon signalling system. Whenever anyone receives something that looks suspect, they hail a local leader to the problem by activating an audible and/or visual andon signal. The two of them quickly work out an immediate near-term confinement solution to prevent customer disappointment.

But in a lean organisation the local leader also does something else; once the immediate near-term confinement is in place, he/she commits to working on a permanent 3D countermeasure solution to the problem so that it never repeats for the exact same reason.

Repeating the andon-containment-countermeasure loop over and over will eventually result in a nice, quiet operation. And the reason it will be nice and quiet is that there will be few, if any errors occurring or being passed on.

It's a tough road, and the view is sometimes bleak, but it must be travelled if errors are to be permanently eliminated.

3. Pull material and work as it is needed.

Toyota's famous Just In Time (JIT) system is often the most visible mechanism observed when touring a lean operation. Downstream processes triggering replenishment from upstream processes, only when they're ready for more material or information, is a hallmark tool in the lean toolkit. But there's far more to a JIT/pull system than simply replenishing material or work.

No one would argue that triggering replenishment of material or work only as it is needed, never too early or too late, is an ideal situation. But one might also think that using simple exchange cards or squares on the floor for triggering replenishment is an overly-simple technique that could fall apart easily. And you'd be right; pull systems are fragile – triggering cards can go missing, too many triggering cards can be posted for replenishment, etc.

But now ask yourself how many things can go wrong with an ERP system. Can stock quantities be in error? Can stock locations be wrong? Can suppliers exceed their promised lead times? Can stock take figures be erroneous? The fact is that even the best managed stock control systems can have these problems.

Then ask yourself one more question: when any of these ERP system problems occurs, *who knows* that they have occurred? In most organisations, the answer is *only one or two people or groups* – generally only Production Control – and sometimes only *after* the stock control problem has caused other problems, such as line stops.

Now go back to a visually triggered JIT/pull replenishment system. When something goes wrong with it, how obvious is it that something is amiss? The answer is that it is visually obvious when anything goes wrong; no one needs a computer to tell them, because the material or work inventory (or lack of it) 'tells' them. And how many people know that something has gone wrong? The answer is anyone and everyone, because errors are immediately visible to everyone using the system, and because the system is simple, visual and operates in real time. How much quicker is it to find out if an error has occurred? Instantly, because the JIT/pull system makes errors immediately obvious when something goes wrong, not hours or days after the fact.

So whilst a JIT/pull system is just as fragile as an ERP system for controlling the flow of information or materials, the advantage of a JIT/pull triggering system is immediate, visual feedback to everyone whenever something goes wrong.

(The other big advantage is that a JIT/pull system costs almost nothing to implement and maintain. The same can definitely not be said for ERP systems.)

4. Level out all activities across the available time.

Whilst JIT systems are immediately visible when touring a lean operation, the invisible enabler behind all successful JIT systems is a consciously levelled workload; JIT systems simply can't function effectively if the information or material demand stream they're supporting hasn't been consciously levelled.

But before we can begin levelling out activities we need to know what their natural 'pulse' is. In most organisations the natural pulse of production is not known, so work moves through the value stream in peaks and troughs, generally according to daily, weekly or monthly patterns but also at random within and between these. The result is often a waxing and waning of periods of overtime followed by periods of requesting employees to take voluntary annual leave, both of which cause frustration for management and employees alike.

In a lean organisation the 'pulse' or takt time of every operation is calculated based on (internal or external) customer demand and available clock time or calendar time.

In Accounts, for example, month-end processing is a legal requirement, so the available time is one month. If customer demand within the Accounts organisation requires, for example, that 160 transactions be posted per month, and a nominal month contains 20 working days, a lean organisation would ensure that eight transactions get posted every day – no more, no less. An advanced lean organisation would take this scenario one step further to require that, in an eight-hour day, one transaction is posted every hour. It would also institute a KPI regime that tracks variance to the hourly target in order to better understand and attack root causes of upstream or downstream disruptions in order to fine tune the balance of process tasks and the 'pulse,' or takt time.

But in a casting operation, like most others, there is often variation in customer volume demand from one month or quarter to the next. To make matters more interesting, there is always at least one bottleneck operation – typically the crucible or heat treatment – or both. Is customer demand, as typically determined by (acceptable quality) tons per day, smoothed out across the month or the quarter? To what extent is the available capacity of bottleneck operations, including planned and unplanned downtime, compared against levelled customer demand? How diligently is the difference between levelled customer demand and available capacity revisited in light of changes to each?

Available capacity on bottleneck operations is directly affected by uptime. In any production scenario, uptime is dragged down by the Six Big Losses:

1. Breakdowns

2. Change Overs
3. Minor Stoppages
4. Reduced Speed
5. Defects/Rework
6. Start Up

Is the impact of each of these measured and analysed for improvement opportunities? How often? Are there supporting Total Productive Maintenance (TPM) and quick change over (SMED, or Single Minute Exchange of Die) systems in place for eliminating or reducing them?

An hour lost on a bottleneck operation is an hour lost across the entire value stream, so sustained focus on the Six Big Losses, especially (but not always) TPM and SMED is critical. Here again, the focus should not be on the tools, e.g. TPM and SMED, but on the lean Value of levelling out activities across the available time; TPM and SMED are simply methods for constantly improving the organisation's ability to smooth out and match demand to capacity.

But it all starts with determining the takt time for each operational area of the business, so first determine their necessary 'pulses' before picking up any of these tools, because after bashing away with them for a while it will not be evident at all why they were picked up in the first place.

5. Always look to the long term.

We've all heard the phrase "short term pain results in long term gain," or its quirky corollary, "know pain, know gain." Whether applied to fitness, investing, transformational change or personal relationships, this tried-and-true adage doesn't appear to even merit mentioning; by now it should be considered as elemental DNA in every organisation. Entire industries exist to promote and promulgate long-term vision thinking.

As the fifth Value, it almost seems to be a pithy "catch-all;" if the problem or opportunity at hand doesn't fit squarely into any of the first four Values, use this one as a weapon of last resort. In a lean organisation, however, this is hardly the case, and hence the reason for including it in such an already very short list.

Whilst many mission statements contain references to long term vision, what they mostly appear to actually relate to is their organisation's ongoing sustainability, typically through innovation, market development, trend capitalisation, etc. Although these might be lofty ambitions, they're generally out of scope for the average employee not residing in the C-suite. As such, they aren't very motivating at all but the top levels of the organisation. (And even then they're often regarded as mere platitudes.)

In a lean organisation, taking the long term view translates to all corners, bottom-to-top and top-to-bottom; taking the long term view means focussing deeply and introspectively on the process, any process, not on the destination or even on the outcome. And definitely never on the individual. (More to come on that last one later.)

Looking to the long term means constantly looking for and peeling away layers of waste. It means knowing how things are going at the coalface, ideally this minute, so that all problems get surfaced. It means continually mapping the value stream of the organisation to identify areas of opportunity for heavy blasting, light tweaking and everything in between. It means becoming diligent and deft at asking 'why' until true root causes are known so they can be counter measured at their true root causes. It means shunning 'just-for-now' solutions, knowing that 'just-for-now' is how most waste gets created in the first place. It means top leaders actually visiting their coalface operations, on a frequent basis, to ask insightful, thought-driven questions of workers so that top leaders can learn, *not the other way around*. It means celebrating gains large and small, along with broadcasting important findings so that other areas in the organisation can also learn from them.

This is a long, albeit incomplete list. It's exhausting just to read it, much less to start doing it. But it is critical, because what you get out of it is a multiple of you put into it.

When everyone in the organisation sees and understands that ‘this is the way we do business,’ the game starts to change. One day along the way, a fitter suddenly decides to replace a broken bolt with a higher grade bolt so that the unnecessary breakdown that was caused by the weaker bolt won’t happen again.

Shortly after that the Accounts department decides that they can shift some transactions to happen earlier in the month so that month-end processing is just a bit smoother. The following week Sales holds their first conversation in months (or years) with Production regarding an upcoming sales push opportunity, with the ideal that this time around no one will be caught holding the bag of unfulfilled demand or capacity shortfalls.

c. Examples of Application – the five Behaviours

1. Go, see and study.

One of the most important behaviours in any operational environment is the practice of physically going to the coalface – the factory, the warehouse, the office, or wherever – to see what is actually happening, and if necessary, to study causes and effects in order to solve problems.

Taiichi Ohno, the father of the Toyota production system, had a particularly interesting technique for ensuring that people practiced ‘go, see and study.’ In his pocket he kept a piece of chalk. On a random basis he would take one of his mentees to an area of the factory, draw a chalk circle on the floor and tell the person to stand in the circle, wipe their mind blank and simply observe what they saw, asking ‘why’ every so often. After a few hours (or days!) he would return to find out what that person had learned. It was from these profound mentoring sessions that some of Toyota’s most famous lean principles and tools arose.

Go, see and study is at the heart of all problem solving; the actual facts can’t be known until time is spent in careful observation of what is actually happening. (This is especially true in the absence of Standardised Work Instructions, but it really applies in all cases, as Standardised Work Instructions can still be circumvented; they are only firm until someone finds a ‘better’ way, and often ‘better’ ways to do work don’t necessarily make themselves known with flashing lights and wailing sirens.)

The coalface – where the work actually happens – is referred to at Toyota and other lean organisations as the gemba. The gemba is the only place in the organisation where customer value is created; value, at least in the eyes of customers, is not created in any operation that isn’t changing the form, fit or function of material or information. So it is absolutely critical that the gemba is the main centre of attention in any lean organisation. Period.

Is management visiting the gemba at least once a day? How long are they spending there? What are they observing when they’re at the gemba? Are they asking patient, intelligent questions so that *they* (not gemba workers) can learn more and more about the operation they’re actually in charge of? Are they humble when they’re at the gemba? (The gemba is the workers’ domain, after all, not theirs.) Are they documenting their key findings for self-reflection in the near future? If the answer to any of these questions requires hesitation, then an important opportunity to take solid go, see and study actions is self-evident.

2. Challenge the status quo.

Most organisations adhere to the “if it’s not broken, don’t fix it” mentality. It’s the path of least resistance, after all. A lean organisation, on the other hand, is one that firmly believes “if it’s not broken, go find out why, because it’s probably hiding waste.”

If things are always going smoothly, it’s likely because there are extra things in place – extra inventory, extra process checks, extra inspections, extra maintenance, etc. – to cover for process shortcomings. All of these extras are unnecessary waste, and all of them cost money that might be better spent elsewhere.

Here's what usually happens: processes that aren't consciously developed tend to simply 'come together' over time. When a once-off problem occurs, as they always do, each new problem is accommodated with those little extras, bandages, really, just in case the same problem recurs. The 'just for now' approach is then taken; the organisation puts the extra actions, inventory, etc. in place 'just for now,' with a promise or a threat to return at some point in time to solve the root cause of the problem so the previously-unnecessary extras can be removed.

But then, of course, the next once-off problem comes along. The previous problem gets forgotten in the ensuing fire fight and implementation of the next 'just-for-now' solution. The cycle then continues repeating, usually with another (unfulfilled) promise to come back to find the real root cause of the previous problem.

Pretty soon, processes that were once lithe and simple become cumbersome and complex, adding more cost with each new iteration of 'just-for-now.' After a while the 'just-for-now' bandages, which by then are getting pretty thick, have plugged most holes in the process, so they then become the norm. At some time thereafter they get documented and standardised as they are, not as they originally were, at which point they become "the way we've always done things." Now documented and apparently above question, they become sacred cows.

'Just-for-now' is how most waste gets created in the first place; things are done 'just-for-now' on the promise that true root causes will be addressed sometime in the future.

In a lean organisation, sacred cows make the best burgers. And everyone is hungry, because it's part of their job to find them. So everyone challenges the status quo every day.

3. Respect the individual.

Does anyone ever wake up in the morning and say to themselves, "you know, I just want to do a really bad job today. Hmm. I think I want to miss my targets on purpose, just to see what happens. Or perhaps I'll create or pass on some defects. Ah! Even better! I think I'll injure myself or one of my colleagues."

No one ever, ever, ever does this.

Everyone wants to wake up and go to work knowing that at the end of the day they've put in eight hours of work for eight hours of pay, and that they've somehow contributed to the profitability of the organisation so they have a job to come back to tomorrow, next week, next month and next year.

But what happens every day? Here's what happens: people miss their targets, defects get made and injuries and near-hits happen. Lots of other bad things happen as well; things that no one wanted to have happen.

But why? Everyone wants to do a good job so they have a job to come back to tomorrow, don't they?

The reason that targets get missed, defects occur and people get injured is this: almost everywhere, people are stuck working in broken or non-existent processes.

In a lean organisation it is *always* recognised that *the process is always to blame*, never the person. Whenever *anything* goes wrong, total focus is immediately on the process, challenging it to reveal deficiencies, cough up shortcomings or point out the confluence of previously unanticipated combinations of upstream effects.

This exercise is, of course, extremely easy if no agreed process exists. Problem = no process. Fix = document the process, validate it, train everyone so that it can be performed equivalently and then constantly apply the 3D's to make it more and more error-proof going forward.

But this takes time, money and effort, you might be arguing. Yes, it does, but because, on average, the cost of poor quality ranges from 15% to 25% of sales but the cost of preventing errors ranges from 0.5% to 5%, and because *without standardisation there can be no improvement*, it *must* be done to keep the same problem from reoccurring again and again, as broken or non-processes generally enable.

In a *truly* lean organisation it is *management* that takes the blame whenever targets are missed, errors occur or injuries or near-hits happen; it is *management* that didn't provide the time or resources to create, train, stabilise, error-proof and lock down processes. Period.

At the end of the day, however, we're all human, even management, so problems will occur. And because managers are humans, they need to be respected as well; they don't wake up thinking that they want to do a poor job either.

But they may also need to shift their approach. A major aspect of respecting the individual is finding out what about their job irritates them. Asking operators how many they can process in an hour, and whether they think they could do more, will never generate respect. Asking operators what irritates them or makes their job difficult, and then fixing those irritants, will always elicit respect because operators always want to do a good job. When leaders constantly work with operators to remove work task irritants, mutual respect will naturally emerge.

Ultimately, the speed and effectiveness of reducing or eliminating problems rests squarely on management's shoulders; they run the business, after all. And it all starts with recognising that it is *always* the process, *never the individual*, that is to blame when problems occur.

4. Work as a team.

This one also appears to be another old adage for the history books, and nearly as old as history itself; as with 'look to the long term,' at first glance it smacks of over-simplicity whilst conjuring up images of sports coaches.

And here again, an entirely different industry – motivational speaking – exists to rev up your 'team' during a half-day session, which magically boosts performance, at least for a while, until morale, productivity and safety levels inevitably tumble back down to their prior levels, perhaps even lower.

A lean organisation knows that teamwork is the *only* way to work. This is because *no one of us can ever be any smarter than all of us.*

We all bring years of experience to the table every day; every person in your organisation has a broad variety of backgrounds, including past jobs, personal and professional relationships. Why squander this raft of expertise when it is fully available for harvesting every day?

The first sad fact, whether you like it or not, is that you, your engineers and your supervisors are *not* the experts at understanding the processes that add value for your customers. Your operators are. They live for eight hours a day with whatever process conditions they've been provided. Sometimes these conditions are sufficient, but often they most definitely are not.

This is where teamwork begins.

What if coalface operators – in the office, warehouse, factory, or wherever – suddenly had at least four or more brains, with all of their various experiences, coming along to work beside them to nut out problems? How much better off would the value-creating operations of the business be at the end of every working day?

The second sad fact is that, in most operations, people have narrow job descriptions and KPIs that hem them into a fairly routine set of tasks, year in and year out.

In a lean organisation, accountants help solve problems in the Maintenance department. Engineers help solve problems in Grounds Keeping. Grounds Keepers help solve problems in the Warehouse. Warehouse operators help solve problems in the Finance department. And the list goes on.

Moreover, in a lean organisation this kind of teamwork happens every day, for every problem. A variety of different skills are always brought to bear whenever anything goes wrong, with the expectation that the team will always come up with a better result than an individual would.

Brief *daily* shift-start stand-up communication meetings to report progress on KPI status and kaizen actions, and to solicit new kaizen ideas, are necessary to enable teams to know exactly how they are performing (which is also another aspect of respecting the individual).

And whilst a structured problem solving methodology needs to be in place, there are no team charters, ground rules or formal reports – it just gets done.

To what extent are you leveraging the full depth of experience of your team?

5. Kaizen (continuous improvement).

In Japanese, zen = good, kai = change.

In a lean organisation, kaizen is the engine. It's the unwavering belief that no matter how things are, they can always be better. Processes can be easier, faster, safer, more reliable. Products or services can be constantly improved. Necessary non-value-added processes can be more efficient and effective. Deployment of technology can be improved. Speed to market of new products or services can be better, more complete and more repeatable. We can work smarter, not harder.

You might be thinking that this translates to a multitude of large projects going on simultaneously. In fact, kaizen is a multitude of small, laser-focussed projects that take between fifteen minutes and (at most) three days to conceive, solve and implement. Kaizen aims at making working life "just \$10 easier," one kaizen at a time.

Moreover, kaizen projects don't cost much, if anything; in a lean organisation kaizen also means not substituting money for brains. Aside from (available) labour costs, kaizen projects shouldn't cost any more than \$10 to \$250. This is why kaizen needs to be done in teams, because a team will always come up with a better and cheaper solution than an individual. Conversely, if the material cost of a team's suggested kaizen solution is more than \$250, this should be a trigger that they haven't yet come up with the most elegant, effective solution.

Kaizen might not sound like much, at least in comparison with, say, implementation of a new ERP system or launching a new business division. And you'd be right.

But when there are dozens of small kaizen projects in work all the time across the organisation they start to add up. Processes are constantly being examined for little bits of waste, procedures are constantly being interrogated to find out which operations could be better, and then those little bits get fixed quickly and cheaply. When this is happening, the numerous small improvements start to gather speed. Their collective impact starts to escalate, and in time they generate more value to the organisation than a new ERP system or business division could.

But just telling people that improvement is part of their job won't make it happen on its own. And don't waste your time putting a suggestion box in the canteen – it won't work.

Just as with any other desired behaviour, there need to be carrots and sticks to make kaizen work. If kaizen is expected to be part of everyone's job every day, KPIs around the number of improvement suggestions made, implemented *and incorporated into Standardised Work Instructions* need to be put in place, right alongside KPIs for safety, quality and on-time delivery.

But for people to meet those KPIs they need to have some time to identify and implement improvements. 30-45 minutes a week is usually plenty. And whilst this might seem like a bit of a sacrifice, the returns to the business are often multiples of that. And they happen week-in and week-out. Some are larger, some are smaller, and some can be quite unexpected.

In a lean organisation they all add up to constant bottom- and top-line improvement, week after week, quarter after quarter and year after year.

5. Future Direction / Long-Term Focus

The lean toolbox is definitely not full; whilst some tools are over 50 years old, it's been only ten years since the latest lean tool (Value Stream Mapping) got dropped in. And there are more to come as Toyota's famous production system steadily finds its way into more and more industries.

The lean tools provide the mechanisms we need to put some, but definitely not all, of the lean Values and Behaviours on place in our organisations. Whilst there are lean tools for pulling material and work as we need it, and for not passing on poor quality to the next process, there is no lean tool, for instance, that forces or motivates us to work as a team. There is no lean tool that makes us respect the individual or look to the long term.

This is why the lean Values and Behaviours are so much more important than the lean tools. No one ever picked up a toolbox and said to themselves “I think I’ll build a cathedral today.” More likely, they decided firstly that they’d like to build a cathedral, then figured out how they’d go about doing it, and then once they’d worked that out, picked up the toolbox to actually start working.

The lean Values and Behaviours clearly define ‘how to go about doing it,’ not which specific tools to use. And in pointing the way toward ‘how to go about doing it,’ they act as a constant waypoint when things go sideways, as they often do. But when things are in a relatively steady state, they also serve to motivate the next round of development toward perfection that is met or exceeded on the never-ending journey of improvement.

6. Results / Conclusion

Whilst the lean tools are important, far more important are the lean Values and Behaviours, because if we don’t understand them first, it’s quite easy to simply dive into the lean toolbox, pull out a spanner and start bashing away at a screw. The only thing that will stop this from happening is understanding and diligently applying the lean Values and Behaviours.

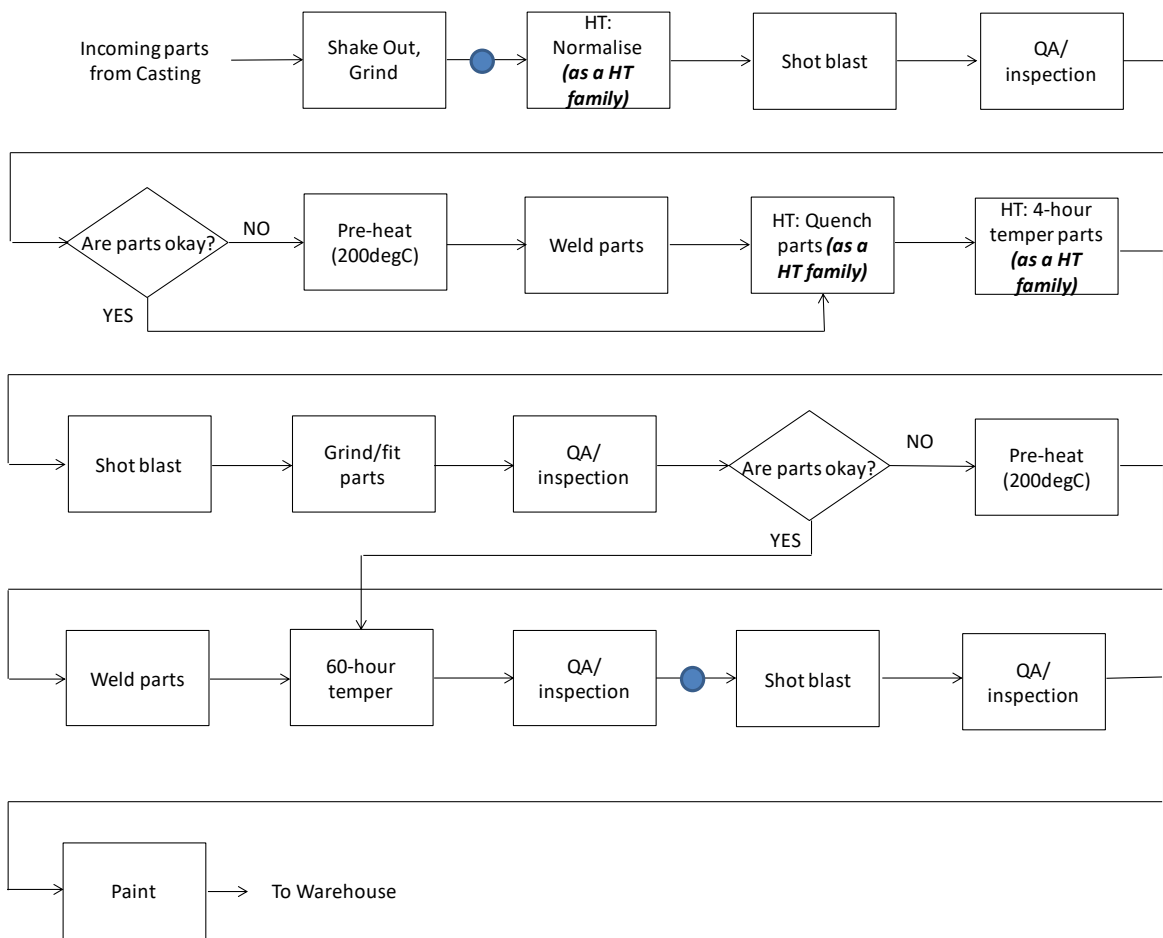
And it doesn’t matter if you’ve never heard of lean or if you’re already on a lean journey; starting to apply the lean Values and Behaviours will always help, in any setting, even if you don’t have any lean tools in the toolbox yet. They can help establish solid KPIs, motivate correct actions at all levels, provide reference points for daily work management and even prevent questionable investments, all in ten short, simple sentences.

Appendices

Appendix A – Scenario

In this scenario, a new range of castings required heat treating, quenching, 4-hour tempering and finally a 60-hour temper, with every casting lot to be handled as a *heat treat family* prior to being blasted, inspected and finally painted.

The problem was that, depending on the quality level of the castings in the heat treat family at various stages of the finishing process, some members would have to split off and travel through different processes than others. A casting in a heat treat family could therefore travel through to 10 to 14 process steps, with four of those process steps requiring inclusion of *all* members of the heat treat family:



The main concern with this situation was heat treat family members going missing whilst other heat treat family members had to wait for them to catch up. The target condition was to have all heat treat family members arrive at 60-hour temper together (*never pass on poor quality to the next process*), with no time wasted in production to keep them all together throughout the various processes (*challenge the status quo*).

Unfortunately, the process for doing all of this and keeping heat treat families together had not been thought through prior to launching the new products, so there was no documented method for keeping heat treat families together at critical points in the production process.

The business assembled a team of operators (work as a team, respect the individual) to solve the problem. After walking through and documenting the process flow (go, see and study) the team brainstormed possible solutions, settling on a robust visual mechanism (look to the long term) for identifying heat treat family members going through the various processes:



The visual mechanism comprised simple laser cut tags (kaizen) that travelled with subsets of heat treat families. At the end of normalising, the first free set of four tags (each of the same letter) would be put into the bin with the heat treat family, with the heat number and date written on the erasable back plate of the corresponding letter.

Whenever members of the family had to split off to other processes, the same-letter tags would also be split, with at least one letter tag going onto one bin containing family parts.

The team then documented Standardised Work Instructions (work in a standardised and safe way) and trained all affected operators in using the new process (respect the individual, never pass on poor quality to the next process). In order to help prevent tag process errors, including not returning tags to the board and tags not being used, a daily 30-second supervisor pre-shift checking routine was implemented (never pass on poor quality to the next process) to verify compliance with the Standardised Work Instructions and to correct any problems at their earliest possible point.

In this example scenario, the business could have elected to assign a process engineer to come up with a solution and implement it. That solution might have worked, but it likely would have been too complicated or not robust enough.

But the business chose to instead deploy lean Values and Behaviours, which resulted in an elegant, inexpensive solution that was created by the team members – the primary users of the system – and which provided immediate visibility of correct function of the system as documented.

Appendix B – Author

Todd Standal
Lean Specialist



Qualifications

- Master of Business Administration, Seattle University, Seattle, Washington USA
- Bachelor of Science in Industrial Engineering, University of Washington, Seattle, Washington USA

Professional experience

Todd comes from a career at Boeing and Genie Industries in the US as an Industrial Engineer focussing on major project management and lean practices. His passion for manufacturing, and in particular the application of lean principles, led him to a global lean implementation organisation deploying numerous business improvement techniques worldwide, followed by independent lean manufacturing and business improvement consultancy in Australia.

Todd's in-depth exposure and application of lean principles have enabled his clients to experience successful, long-lasting, and self-perpetuating lean manufacturing and lean office implementations in North America, Europe, and Australia. In addition to his extensive lean application capabilities, his broad knowledge and skill in managing major factory relocation and reconfiguration projects has enabled clients to quickly and smoothly realise significant operational and cost structure advantages.

Whilst with Deloitte from 2008 to 2012, Todd managed delivery of the diagnostic review portion of the Federal Government's Automotive Supplier Excellence Australia program and the Victorian Government's C21 Challenge program, wherein he created diagnostic tools and conducted detailed benchmarking reviews of over 125 Australian automotive suppliers. For each participating supplier Todd generated and delivered detailed company-wide managerial, operational, financial and human capital action plans arising from benchmarking results, to companies whose turnover ranged from \$2.5m to over \$750m.

Following a position as Group Operations Manager for a multi-site laser cutting and fabrication operation Todd came to CLS, where over the past four years he has enjoyed working with a diverse set of manufacturing and service industry clients implementing competitive systems and practices to realise permanent gains in productivity, throughput, quality and on-time customer delivery.

Appendix C – References

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