

# Operational Excellence – driving a competitive advantage, levels 4 - 5

Businesses that survived the recent economic pressures have no doubt been forced to improve. This inevitably involved cost reduction. Many will have embarked on improvement programmes that have reshaped the ways of working and have developed ‘in house’ improvement capability. They have understood the relationship between the sustainability of their results and their ways of working (the practices). For the vast majority of businesses the focus remains on the primary ‘physical’ processes where value is added and the waste is most visible.

Following our paper ‘Operational Excellence – building the fundamentals levels 1 - 3’ this document explores opportunities beyond the primary processes, and what can be achieved when the

more mature levels (level 4 optimise and level 5 excellence) of Operational Excellence are reached.

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This document provides an overview of Suiko Thinking and how application of the Suiko Why-How model can support making operational excellence a way of life. If applied appropriately, the approach will enable the organisation to realise the

Businesses that have adopted level 1 foundation, level 2 control and level 3 improve will no doubt have improved, and depending on the industry sector may well have achieved a level of competitive advantage. These businesses however should not fall into the trap of thinking that they are now ‘lean’ because they have lean expertise and dedicated resource – there is a long way to go yet! The truth is that levels 1 to 3 are the beginning. They achieve a level of stability in the primary processes that can allow wider business thinking – end to end thinking – that will provide far greater business benefits in terms of cost, profit and cash.

This does however require true common agendas, and aligned thinking, especially at the most senior levels. An operations director

recently quoted “I have a number of objectives to achieve but I am focussing on achieving level 4 to deliver them”, yet the financial director driving working capital reduction simply instructed increasing creditor days...

### Level 4 & 5 » Suiko

- Once you have control and and the capability to improve, you can move to another level...
  - ▶ Think about the future, not the present
  - ▶ Think business growth, not cost cutting
  - ▶ Think joined up and working cross functionally
  - ▶ Think end to end and delivering customer value
- Make Operational Excellence a competitive advantage
- Design and drive towards a compelling future state that delivers a step change in business growth

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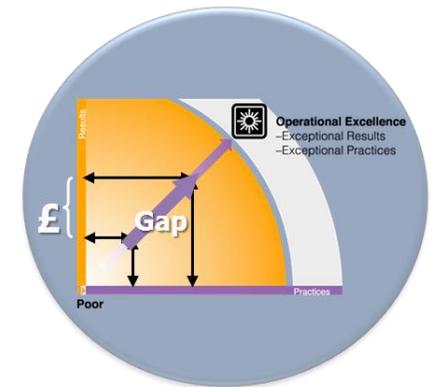
## Background

You can never 'over do' the fundamental principles of the Operational Excellence journey, but what is excellence? Well excellence could be called lean. Lean is an addiction – the leaner you get – the more opportunity you see to get leaner. This leads to pushing conventional thinking to a new level, challenging not only primary processes, but also those indirect activities needed to run the business. The fundamental principles of the Suiko model are:

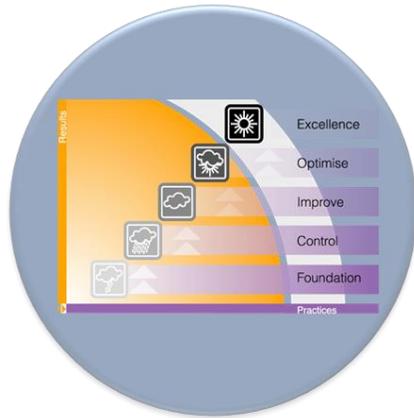
Suiko Why suggests that there is a relationship between results and practices. The quality of your practices will influence your results. If it doesn't then there are only 2 conclusions:

- 1) You are kidding yourself on the quality of the practice or
- 2) You are doing the wrong practice!

Simple logic well understood, but the important point is the ability to measure where you are on the results practices axes. It is indeed possible to move vertically on the axis, i.e. improve your results without changing practices, but unlikely to be sustainable. It is equally possible to be adopting mature practices that don't yield results – in this case the practice is unlikely to be sustained.



Suiko What provides a stepped approach towards excellence following this logical path. Each step is measurable against the Suiko what assessment. End to end activities require a level of stability and maturity so fit in levels 4 and 5, optimise and excellence.



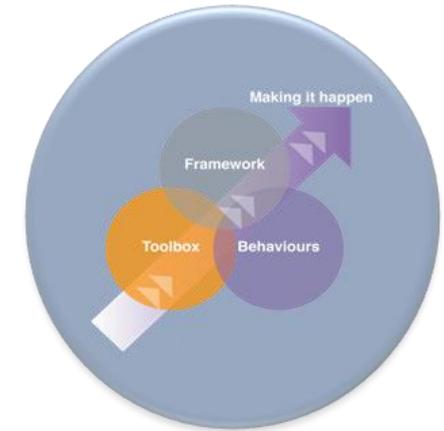
It may be possible to run some end to end activities before levels 1 to 3 have been achieved, and benefits may be realised – but this is a risky strategy. The activities take investment in time and resource, and may never get started without a strong foundation. There is also an element of the more you do the better you get. The better you get

the more you see, and the more you want to do!

Suiko How is perhaps the most important model, as this provides the ability to move around in the results practice graph. It is normal for early CI activities to focus on ‘What’. There is typically a period of lag before achievements in ‘What’ can be connected to improvements in ‘Why’. Usually at this stage the light bulb moment comes and focus is shifted towards ‘How’.

Establishing a framework usually presents few problems, the first step is understanding where you are and gaining a commitment to be somewhere else. The timing, resource and budget should be agreed. Tools are the easiest and almost always exist. Changing behaviours is usually the most difficult. As demands change and required skills

change so the team need to change – the goal posts have to continue to move. Plotting the results on the results practices axis from the why and what assessments provides an easy to communicate representation of progress – however it is the ‘How’ score that indicates the ability to improve.



## 1.0 Why consider End to End ?

Achieving excellence takes time. It is not something that can be benchmarked and copied, yet is the goal for anyone reading this paper. Excellence sounds better than Lean, but they are in fact the same thing. Lean cannot be contemplated without considering the whole value stream – but you have to start somewhere. This section outlines why and when to shift thinking to end to end.

## 1.1 When the obvious has been done

The order of application of level 1 to 3 practices is designed to provide a level of sustainability whilst tackling issues in manageable chunks. This facilitates learning the techniques and a growth of confidence. This type of improvement activity will hopefully have reduced costs, but the amount of effort required per unit improvement will inevitably increase. This is because we naturally target the visible losses – most easily seen in the primary processes. The danger here is that instead of developing the techniques and rolling out beyond the primary processes, the improvement resource chase smaller and smaller gains. The temptation at this point is to drive step change in the primary process often through investment. Of course there is a time and place for this but we should never lose sight of the key lean approach – work on the non value adding activity, not the value adding. Typically in a process, less than 1% of time is actually value adding. Some non value add time is necessary, the vast majority however is simply waste.

## 1.2 Financial justification: P&L or balance sheet, or both?

Unfortunately as finding savings in efficiencies becomes more difficult, the pressure to find more savings continues to rise either from economic conditions or from improving competition. Challenging the value stream end to end can release both cost and cash. Most are familiar with the seven wastes 'TIMWOOD' (Transport, Inventory, Movement, Waiting, Overproduction, Over processing, Defects) but lean is about time – using time as the driver. The logic behind this is simple – the one feature manifested in every type of waste is time.

Hypothetically consider what happens if the time line suddenly increased. Obviously working capital increases eg the cost of warehousing and storage increase or the time to raise and collect invoices. When working capital increases then we need to verify the stock (whether physical inventory or information processed) we have and stock takes are called. Stock level is almost always inversely proportional to stock accuracy, additional resource is often needed not only for the count and entries but also the corrections. Then comes the report writing – distribution, then probably a meeting. This will result in an action plan to reduce stock – that would probably have been done as part of the day job by the supply planners anyway. More stock not only costs more but needs more management. Invoices will need more scrutiny, potentially more errors, more calls and corrections. Needless to say that more stock leads to more damage, more out of date, and the risk that either of these may end up with the

customer. Levels 1 to 3 generally focus on the visible costs and cash – the primary costs, levels 4 to 5 release the hidden or consequential costs – secondary costs.

The costs go on and on..... but the costs exist because of the capital, driven by the inventory. In purist terms – inventory exists only because processes are not optimised to demand. Thinking end to end then will affect both cost and cash positions, reduce product or service cost and ultimately improve the ability to sell.

### 1.3 What is a lean business ?

So what is a Lean business?

It truly understands value from the customer's point of view and strives to deliver this with the optimum level of resource (eg people, capital, knowledge, research, design, overheads). It continues to challenge not only the primary processes but all of the secondary processes needed to deliver the product or service (eg finance, HR, IT, legal).

A Lean business pushes the boundaries of conventional business processes. It is expert at identifying non value add activities and eliminating them. Lean businesses breakthrough constraints and traditional thinking. For example, not long ago manufacturing companies paid premiums to employ electricians in their maintenance

departments, now leading edge manufacturers don't have maintenance departments.

To help visualize a lean business let's refer to a well known manufacturer in Portugal visited in the early 2000's and yet setting a benchmark any company would be proud of today. This company manufactures components for the automotive industry. It is a tier one supplier and claims not to have any engineers, the equipment being so well managed by the operators that no engineers were needed. The reality is really that there are no operators. The whole team have developed the skills they need to do not just the manufacturing and engineering tasks but deliver real process improvement. The team have reached a level where the boring difficult jobs have been engineered out. If eyes were needed to verify quality, the team worked on those issues until they were confident quality issues simply would not happen. There are of course tasks that cannot be automated but the team happily share these tasks between them, without any fear that there may be surplus labour. This company has absolutely driven out the visible wastes.

Unsurprisingly this company doesn't have many mundane tasks. It is truly multi-skilled, multi functional. Each team of 7 runs effectively as its own mini business, requiring very little central support. The traditional HR function has become almost unnecessary. There is almost no labour turnover, and recruitment costs are virtually zero. There is a queue of people knocking at the door to join. Interestingly it is the HR director that is the CEO's 'right hand man'.

All 350 products are made to order with a Takt time of around 50 seconds and a lead time of approximately 40 minutes. This includes transportation to the customer plant. This type of manufacturing is not uncommon in the automotive industry – often used for large components like seats, dashboards car doors and so on. It is naturally Lean because it makes only what is wanted when wanted. It doesn't need stock because it can change between individual component type. There is also no need for any planning function. All subcomponents are pulled into the plant, most managed by the vendors who monitor usage and deliver components as required. There is no actual ordering, delivery notes and 3 way matching, the manufacturer 'self bills' according to finished product and forwards the payment to the vendor. Not only subcomponents and materials are managed in this way but also spare parts. These are managed by a 21<sup>st</sup> century kanban system where consumption of a spare part immediately triggers the replacement to be delivered right to the spare parts storage facility. The systems described involve both the supplier and the customer to create an overall Lean system. This is end to end thinking. There is a clear distinction here between tools and behaviour. The tools and techniques are available to everybody – just try googling kanban, VMI, pull systems .... To make any of these happen requires the right behaviour, **at all levels in the organisation**. Since Lean then is really behaviour based not tool based it can be applied to any industry sector.

So let's explore a projects based business that is NOT Lean. Late delivery of projects because of a lack of joined up thinking and end to end transparency, which means each separate part of the process ie

specification, design, procurement etc, each over ran by a small margin but having a significant knock on effect to the final delivery and commissioning phase. Considerable rework as customer requirements were not fully understood and signed off at each stage gate. Tradesmen not having appropriate drawings as there was no joined up collaborative planning completed in the early stages. Parts stacked up causing inventory and getting damaged as procurement got a 'good deal' with a particular supplier. And at completion the project team congratulating themselves even though the project was late because they could blame the customer for delaying and withholding information.

Lean projects understand customer value, are synchronised in a joined up, end to end manner with consistent, standard work for all routine activities and project accounting done on whole life costs not just part price.

## 1.4 Understanding the current state – how do you know if you're ready?

These days thinking end to end is sometimes out of your control. If you're lucky enough to be in a supply chain to Toyota you are likely to have been thought of as end to end – even if you haven't yet realised the benefits. On the other hand if you are not connected to a major customer that is driving end to end thinking then you are likely to be following some kind of Lean or Operational Excellence journey. The litmus test is this: if you walk into the primary process and you can see waste (think TIMWOOD) then the reality is you are probably not ready. A good level 2 to 3 result is a fair indicator, and is a good time to review / refresh your end to end value stream map. The value stream mapping (VSM) technique is equally as valuable today as it was 20 years ago. Using value and time as the triggers, it eliminates the noise around payment terms, supply agreements, commodity purchasing and others that influence the financials without affecting the physical or information flow in any way. If your VSM highlights blockages to flow caused by scrap, rework, variations, 'work arounds' – deal with those first. If blockages come from batching delays then re look at changeovers, set ups and handovers. If on the other hand you are delivering high levels of service with what appear to be minimised costs then the time is right.

## 1.5 Collaboration with customers and suppliers

Traditional procurement negotiates minimum possible part or contract price and then stretch payment terms as far as possible. The net effect? The suppliers squeeze their margins to the absolute minimum potentially risking their future, or assume they will recover their margin through design change, variations and/or claims. An alternative approach is agreeing an acceptable margin for both the customer and supplier and negotiating on cost instead of price. Once again some automotive manufacturers have mastered this typically agreeing between 3% and 5% cost reduction year on year. As the margin remains fixed, the suppliers profit as a ratio of cost actually increases if the cost reduction has been achieved. How do we then guarantee the cost reduction? The customers are happy to support the suppliers with expertise and genuine collaboration. Agreeing cost reduction and maintaining margin requires open book accounting – a big no no for many businesses. Why? Actually as a supplier if you make your own additional savings you are welcome to keep them, and if you can get free resource to help you, why wouldn't you take it? After all any savings you realise can generate 2 opportunities – improving profitability or improving the ability to sell by reducing your price and maintaining your margin. The most effective way to start is to think at both customer and supplier interfaces on the value stream map, and what benefits could be achieved with long term commitment.

## 2.0 What – needs to be in place first?

### 2.1 Stability v Variability

‘Six sigma’ is based on variability in a process. The thinking behind this is applicable to all business processes.

Mathematically a process that runs for 2 weeks in a period at 60% and 2 weeks in the period at 80% is the same as a process that runs at 70% for the same 4 week period. This may be true in terms of costs and but the effects on the end to end processes can be profound. Most businesses run with some form of inventory (whether physical, information, contingency in a project plan and/or customers queuing), however most businesses only consider the physical inventory that can be seen. Inventory is not automatically a bad thing – it is there to cover variability, and therefore needs to be managed. Any inventory that exists that is not in place to cover a variable is a bad thing. What else is inventory? A pile of purchase orders, credit notes, delivery notes, even a pile of CV’s waiting to be reviewed for recruitment. In other words any process carried out in ‘batches’ has inventory. Luckily there are only 2 types of variability that need inventory regardless of sector or process. Each should be understood and calculated before you can understand if you have excess inventory.

- 1) Buffer inventory. This is in place to ensure supply of goods or service against demand variability. A high understanding of demand is therefore critical when considering end to end. Without this it is easy to fall into the trap of demand amplification – just in case planning, which is then amplified down the supply chain, introducing costs previously discussed.
- 2) Security inventory. This is in place to ensure supply in case of variability within your own process. This covers process inefficiency (including people), breakdowns and interruptions, and any risk in your upstream supply chain.

### 2.2 Understanding demand

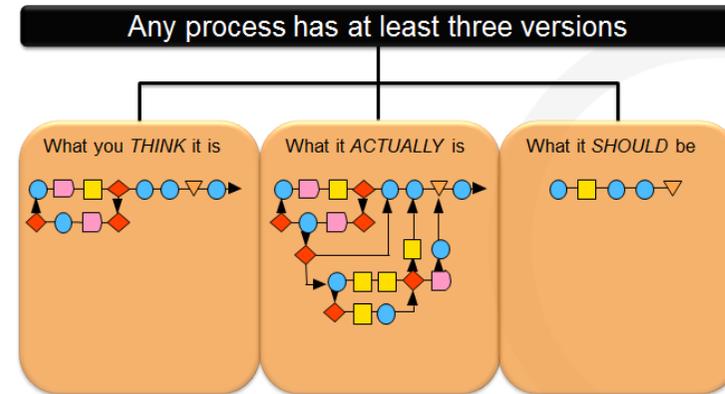
Almost certainly demand will be the biggest variable. In the perfect world lead times will be so short that any volatility can be supplied to order, but in the real world we are often bound by capacity constraints and longer up stream lead times. For this reason products and services are generally split into 3 categories – runners, repeaters and strangers. Each optimised by managing in different ways. Runners should be pulled through the business – if pull is achieved, then almost no management is needed, the support functions virtually eliminated. Repeaters can be managed in regular periods using more traditional planning techniques, and strangers managed as mini projects. Clearly lead times to the customer are proportionally longer for each. True demand variability can only be understood through analysis of what has

been forecasted, ordered and actually required – but data is getting better all the time. For example Tesco and Sainsbury on line systems showing on shelf stock levels are excellent and as they develop demand amplification will become a thing of the past. Forecasting will still have to be used for extended upstream supply chains but the stock held, and future ordering should be calculated based on better forecast accuracy and more accurate buffer and security.

## 2.3 Future state mapping

Once a VSM workshop has identified the value stream, an ‘ideal state’ session is normally held. This blue sky thinking is designed to ‘challenge the norm’ and although largely wacky ideas - it can highlight a gem or two that really can be considered for future state.

Future state requires Lean understanding, with the discipline of staying focussed on lead time. Typically should be thought of as what could be achieved in the medium term – say 2 to 3 years as there will undoubtedly be strategic decisions. Once again it is interesting that the information flow contains the ‘invisible’ costs and the physical flow the obvious visible ones. It is also the information flow that is by far the most complex and difficult to map.



It's important that the right cross functional team carry out the future state as sensitive questions will be asked, and the current organisational structure often challenged. The key to this is the ability to account for lead time at each stage of the value stream. What financial benefit would 1 day saving of lead time generate in both cost and cash? Traditional accounting and costing systems are unlikely to be much use so buy in from the Finance Director is a must.

## 2.4 Flow improvements v process improvements

Progression from levels 1, 2 and 3 to levels 4 and 5 requires a fundamental shift in thinking from process to flow.

The outputs from early mapping events usually result in waste reduction activities (TIMWOOD) within discreet processes. These will target and reduce primary costs but have very little effect on the secondary costs.



To release the hidden costs it is necessary to use the traditional techniques but focus on flow improvement instead of process improvements. This seems to be difficult to achieve – probably because most businesses are still organised by function and/or process not value stream. A way around this is to employ Lean resource that is sufficiently skilled and reporting at a sufficiently high level to pull together cross functional teams and tackle flow. The higher up the organisation the individual - more focus the individual should give to flow.

## 3.0 How – to move from level 3 to 4?

### 3.1 Cross functionality

Thinking about the functions that can block flow – particularly information flow, highlights why it is not possible to move from L3 to L4 without cross functional working. The good news is that the tools and techniques stay the same and can be easily applied in and across all functions including IT, finance, demand planning, customer services and sales, however the challenge is that it does often require a leader to have value stream visibility or accountability, which can of course challenge the typical organisation chart. The ratio 20% tools 80% behaviours always applies, and whilst some departments now treat CI as the day job, it's easy to forget the pain gone through to start the process. Many functions are therefore learning from scratch and will have the classic resistance of not having 'time' for these activities. The response is that 'any process can be improved' to save time – but that time saved must be invested wisely. Time spent on Lean awareness and education, plus a few quick wins in these functions can be enough to get things moving.

### 3.2 Levels of maturity

Continuous improvement, Operational Excellence, Lean however it may be branded is normal in operational functions – less normal in those functions previously mentioned. They typically have a different reporting structure right up to board level, and hence have different strategic input. At some point these other functions have to join the Lean journey and therefore the topic needs to be on the board agenda. Why, what, how assessments levels 1 to 5, will have been used in operational functions, and probably great importance given to the progress, however in pursuit of end to end improvement the assessment scope needs to be widened to business level. Some functions will have faster uptake than others. There will certainly be a belief in some functions that they are ‘already Lean’ and this may well be the case if they are considering the processes that they carry out to support the current state. Generally these functions – particularly the support functions are not used to considering waste across and between functions, again a symptom of organisation by function not value. The movement from level 3 to Level 4 is dependent on the whole business, and the use of end to end why, what, how assessments to provide the direction.

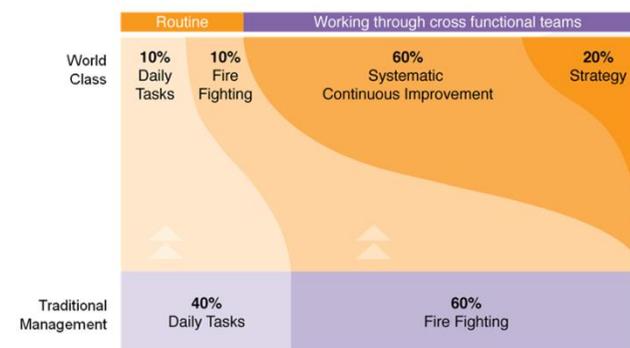
### 3.3 Tools and behaviours at senior level

How do we get the best use of the assessments? If the senior team can understand what Lean can provide then the 5 levels and the 3 assessments provide the direction needed. Tracking progress, removing roadblocks and applying resource then depends on how the 3 ‘why what how’ assessments are used.

Why assessment: Applied to the whole business – used at board level as an ‘OEE’ type indicator taking into account the balanced KPI’s used to drive the business. It should therefore be used at the highest possible level as it already takes into account how well the measures have been cascaded. This could be owned by the Finance department who should be measured upon it. The Finance department then has a responsibility for driving the measure not just analysing results of other functions performance.

What assessment:  
Deployed by the various heads of functions providing transparency of the practices in all areas of the business.

How assessment: Must again be owned by the



senior team as these are the only ones that can truly influence the leap from process and functional thinking to flow and end to end value thinking.

The tools however are a means to drive behaviour – in levels 1 to 3 we quote 20% tools, 80% behaviour and the message is no different at the senior level. The tools are an aid to strengthen the business leadership, providing clarity on what the business needs to achieve, how to win, what's needed from teams and processes and a way to communicate it.

### 3.4 Conclusion

There is no question that every business process can be further optimised and waste removed. The problem is that many processes, often seen as essential business controls are actually waste, however the rule is simple – blockages to physical flow are always caused by complexity in information flow, complexity in information flow leads to cost in all functions.

Suiko levels 4 and 5 provide a structure to achieve Lean and provided there is an aligned and joined up commitment at board level the following 3 business benefits will be realised as the business becomes more closely aligned to the customers requirements:

- 1) Cost will be controlled and reduced. If the time taken to carry out a process reduces, it can be started later. Time consumes cost.
- 2) Cash will be released. Working capital reduction allows smarter use of funds, investment may be avoided, or alternatively investment opportunity can be more easily taken.
- 3) Reduced lead times result in improved responsiveness, the ability to take advantage of market opportunity, grow market share and the ability to charge more for the service.

Levels 4 and 5 are not an investment in tools and techniques but an alignment to end to end thinking and the relentless application of Lean thinking. This includes all functions of the business potentially including both suppliers and customers, with the ultimate outcome of providing a unique competitive advantage and long term profitable growth.

If you would like to discuss how to address the issues above, then please call us.



### Building Operational Excellence

**Suiko are experts in Operational Excellence. We improve efficiency, sustain improvements and grow profit within our clients' business.**

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