Team Recognition through People

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TPM-The ‘Pinch-Point’ Solution for Delivering Operational Excellence

Delivering Sustainable TPM through the 3 x P’s of Purpose, Process and People

1.0 Recap and Focus for this 5th Article

In Articles 3 & 4, we described the SA Partners Enterprise Excellence Model centering on the 3 x P’s of Purpose, Process and People which, through alignment, improvement and engagement, will deliver sustainable results as outcomes.

We also described how the TPM System Model aligns with the 3 x P’s as illustrated in Figure 1 below. Namely as:

- The TPM program is applied via a defined introductory and deployment process within the business unit—called the Purpose (the focus of Article 3)
- The application of the TPM model is then delivered through a defined sequence of team based ‘learning by doing’ activities as a 4 x Cycle 11 step Process (which was the focus of Article 4)
- The outputs of this 11 step application are then aligned to a progressive and evidence based assessment process to assure the team’s progress through the model—as the essential People development part. (which is the focus of this 5th Article)

![Figure 1: The TPM System Model](image)

2.0 Team Recognition through People

Ultimately the success and sustainability of the TPM process will largely revolve around the degree and extent of Management Commitment and their Visible and Pro-active Support.

The Roll Out process builds on experience gained during the Pilot Process to ensure that the four development Milestones of MS1 - Introduction, MS 2 - Refine Best Practice and Standardise, MS3 - Build Capability and MS4 - Strive for Zero Losses, becomes a reality. As such, TPM gradually becomes a “Way of Life” through self managed Teams as illustrated in Figure 2 and Figure 3 below.
Figure 2 - The 4 x Learning Milestones of the TPM journey

Figure 3 - Delivering Progressive Team Performance through Your People
3.0 The TPM Infrastructure Model

Figure 4 below shows the site Master Roll-out Plan which is driven by Pillar Champions (on the left) supported by the top down Site Leadership Governance team (the triangle), with bottom-up shift team activity around the 11 Step Process and 5S Workplace Organisation. The TPM Journey or ‘Maturity’ Progress is determined and validated by both Top Down and Bottom up regular and evidence-based audit processes as shown on the right hand side of the model.

In TPM, the Pillar Champion’s role is to establish and then implement a relevant and robust policy to support the adoption of the founding principles of TPM.

Ultimately the policy is about both Problem Solving and Problem Prevention and centres on well defined intentions, choices and expectations.

These intentions & expectations are provided within a framework as a set of progressive ground rules rather than a detailed prescription for action.

As such, these intentions are expressed through 4 linked phases or maturity milestones contained within the Master Roll-out Plan. Each building on capability developed during the previous milestone phase.

3.1 Top Down Review Process

Progress is assessed against the intentions and outcomes contained in the Master Roll-out Plan using a Top Down 30 point review audit, which is carried out every six months by the Pillar Champion team. Each of the 30 Audit points is aligned to a specific Pillar Champion-So there is clear accountability and expectations- and hence no escape!
Below in figure 5 are the headline Lead-In Criteria and Attributes that we are looking for when the PC’s carry out the Bi annual top down 30 point Review.

This will result in a position on the overall grid as illustrated in figure 6—and where figure 7 shows an example of progress over three years of an exemplar and award winning company that has followed and used to full effect the 11 step TPM enabler tool

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### TPM as an Enabler - 30 pt Review

for what we are looking for

<table>
<thead>
<tr>
<th>Support for Characteristics of Manufacturing Best Practice</th>
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</thead>
<tbody>
<tr>
<td><strong>Business Management Strategy</strong></td>
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<tr>
<td>Customer Value Focus</td>
</tr>
<tr>
<td>Seen to Reduce Elapsed Time (Operations, New Products, Lead Times)</td>
</tr>
<tr>
<td>Align Production Cycle with Demand Profile</td>
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<tr>
<td><strong>Infrastructure and Technology</strong></td>
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<tr>
<td>Process based Organisation rather than Functional</td>
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<tr>
<td>Control Variation then Reduce it through Equipment &amp; Process Capability-Stabilise then Optimise (Sporadic then Chronic)</td>
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<tr>
<td><strong>Systems in Place and Working</strong></td>
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<tr>
<td>Simple Visual Systems-SIS or Control by Shift</td>
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<tr>
<td>Easy to do Right and Difficult to do Wrong</td>
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<tr>
<td>Condition Based and Prevention Focus</td>
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<tr>
<td>Pull Logistics</td>
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<tr>
<td><strong>Objective Feedback</strong></td>
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<tr>
<td>Shared Objectives, Single Agenda for Change</td>
</tr>
<tr>
<td>Shop Floor Evidence based Recognition</td>
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<tr>
<td><strong>Training and Skill Development</strong></td>
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<tr>
<td>Formalise and Standardise Best Practice</td>
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<tr>
<td>Simplify and Fool Proof</td>
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<tr>
<td>Capture Lessons Learned &amp; Build Capability</td>
</tr>
<tr>
<td>Flexibility towards Versatility</td>
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<tr>
<td><strong>Cultural Indicators</strong></td>
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<tr>
<td>Continuous Improvement as part of the Job &amp; LIFE</td>
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<tr>
<td><strong>Motivation</strong></td>
</tr>
<tr>
<td>100% Involvement</td>
</tr>
<tr>
<td>Let Operators have the First Chance to Solve Problems</td>
</tr>
</tbody>
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**Figure 5-** Headline Lead-In Criteria & attributes for Bi annual top down Review by Pillar Champions
Interpretation of the Result

Figure 6 - How to interpret the result

Figure 7 - Example of progress over 3 years of an exemplar TPM Company
3.2 Bottom-Up Audit Process

The bottom up evidence-based activity audits (referred to as Level 1a / 1b 10 check point audits through to 2a/2b ,3a/3b and 4a/4b) across the 4 x Milestones of TPM supports the implementation of the Master Roll-out Plan by establishing a foundation for developing and then sharing Best Practice, plus provision of data to support Problem Solving Tools & Techniques and the motivation to improve.

Pillar Champions direct and encourage how that is done in the way they set expectations, (and support delivery), set priorities and give recognition.

Co-coordinating the progress of what are in effect physical geographic improvement zone teams, through the Bottom Up Audit steps provides the mechanism to implement and refine company policy and promote organisational learning.

The Senior Management Team (often as Pillar Champions) will also need to change some of their ways of working in order to create the right environment for TPM to become a Sustainable System

This will include:

- Refocusing organisational goals to reflect the new environment
- Changes in information focus (both Bottom up and Top down) of measures to enhance understanding and share knowledge to improve management decision making.
- Reviewing Management decision processes to focus on systematic thinking rather than the perhaps the more traditional 'command and control'.
- Ensuring reward and recognition systems align activities with top level business driven objectives.
- Significant emphasis on pull through improvements -rather than push down initiatives –where employees then have the opportunity to create positive results rather than react to circumstances.
- Enhancing supplier/customer relationships (both internally and externally).

3.3 Typical Pillar Champions

Figure 8 shows typical Pillar Champions together with 3x site-wide Subject Matter Experts in Logistics, Quality and HSE

The core purpose and role of a Pillar Champion can be summarized as

- To Understand what is required as a specific Champion in order to Drive Continuous Improvement using the TPM ‘enabling’ tool
- To then Develop the Policy for your Pillar & ensuring its Consistent Deployment
Typical Pillar Champions

<table>
<thead>
<tr>
<th>Pillar Champion</th>
<th>Typical Job Holder</th>
</tr>
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<tbody>
<tr>
<td>OEE</td>
<td>Value Stream Managers (+Finance manager)</td>
</tr>
<tr>
<td>FLOAC</td>
<td>Production Manager (Shift Supervisors)</td>
</tr>
<tr>
<td>PM &amp; Q of M</td>
<td>Maintenance Manager</td>
</tr>
<tr>
<td>Skill Development (Generic)</td>
<td>Human Resources Manager</td>
</tr>
<tr>
<td>Skill Development (Technical)</td>
<td>Production Manager</td>
</tr>
<tr>
<td>SS –Workplace Organisation</td>
<td>Shift Supervisors (Production Manager)</td>
</tr>
<tr>
<td>EEM/Major Projects</td>
<td>Manufacturing / Technical Engineering Manager</td>
</tr>
<tr>
<td>Publicity and Communications</td>
<td>TPM Facilitator</td>
</tr>
<tr>
<td>(Logistics)</td>
<td>Planning Manager</td>
</tr>
<tr>
<td>(Quality)</td>
<td>Quality Manager</td>
</tr>
<tr>
<td>(HSE)</td>
<td>HSE Manager</td>
</tr>
</tbody>
</table>

Figure 8-Typical Pillar Champions

3.4 Roll-out Evolution from Project to Routine

Figure 9 illustrates the Bottom-up Evidence based Audit Review Process across the 4 x milestones and the key characteristics and features of how the progress manifests itself towards the four zero targets set at the launch stage of Zero accidents, Zero defects, Zero breakdowns and zero interventions.

As we progress through the 4 x milestones, the initial 8 Equipment based steps -which are each comprehensively addressed in the TPM Pilot Project stage -move into a TPM Routine phase -having successfully passed the Level 1a / 1b evidence-based Milestone 1 audit.

From MS 2 onwards the TPM activity becomes a regular routine phase which follows the typical PDCA cycle where the TPM team gets together formally once a fortnight for a c.2 hour review of the OEE (step 2) and other metrics which will raise new Problem Prevention tactics and actions (as in step 7), which may in turn modify or enhance the Total Asset Care (step 6) and Best Practice Routines (step 8). So in essence, just 4 of the 8 Equipment steps carry on as ‘part of the way we do things here’ continuous improvement process.

The Pillar Champions have a vital and proactive role to play in showing their visible support for these TPM Review activity sessions-not just in the initial 8 Step TPM Pilot projects but also for the ongoing PDCA TPM Routine stage as Roll-out progress- which in turn becomes an integral part of the existing Shift / Daily / Weekly / Monthly review processes.
4.0 Alignment of the 4 Milestones with the 7 Steps of Autonomous Maintenance

For those of us familiar with the original 7 steps of Autonomous Maintenance, - (and as you would expect)- there is strong alignment with the 4 x milestones of our TPM model. As explained earlier, there are evidence-based audit criteria for each milestone, each comprising 10 check points at each of Level 1a & 1b through to Level 4a & 4b-(so, 80 check points in total over the TPM Journey towards self-managed teams).

The figure 10 below illustrates that alignment. It is important to note that within each of the Milestones there are audit criteria which relate either specifically to hardware / equipment performance goals or to the people development goals. These people development criteria relate to both hand / operational equipment specific skills as well as the generic, softer skills of, for example, team working, problem solving and IT skills. Again it must be stressed that each audit criteria must be judged on evidence-both visual and written- and not simply hearsay or opinions. Similarly the numeric key performance indicators within the audit check point criteria must not only be relevant to the business but also designed to drive the right behaviours.
5.0 Emphasising the Teamwork between Operators & Maintainers

One way of describing the TPM Journey and the way in which both the Maintenance Technician’s & Operator’s use of time and skill sets are progressively developed more productively is to use the figure 11 below. (Please note – we used this same figure and profile in February’s Article 2).

Without repeating the detail of that article here, it is perhaps worth stressing two key points:

- The whole philosophy around TPM centres on Teamwork between the Operator and the Maintenance Technician for taking shared responsibility for the health and reliability of their Equipment Assets. So we need to view and consider both roles together in order to define who does what and hence the why, when and how. We encourage the analogy that healthy equipment is just like a healthy body. In this scenario the Operator is the Nurse of the Asset (the patient) and the Maintenance Technician is the Doctor (and occasionally the Surgeon in an emergency).

- There are three factors to be mindful of when explaining ‘autonomous maintenance’ or as we prefer to call it - Front Line Operator Asset Care Checks
  a) they probably don’t get done by anyone at the moment (so it’s not a hidden agenda to get the Operator to do the Maintainer’s job) and ....
  b) those front line checks do not involve using any spanners, screwdrivers – far less voltmeters!
  c) they are developed with both the Operator and the Maintenance Technician – Who also helps train the Operators to carry them out via Single Point Lessons and Standard Work.
So it can be stated with some conviction that adopting the TPM philosophy enhances rather than dilutes the skill sets of both the Operator and the Maintainer.

![Figurative Illustration](image)

**Figure 11-Maintenance Activity Profile**

### 6.0 Some Final Thoughts

The word Lean has some sad connotations and meanings to the uninitiated. Most people think being Lean is doing the same work with less people and unless you enlighten them straight away you won’t get much support far less sustainability. It needs to be spelt out at the onset- without any jargon -that Lean thinking is about maximizing value added through the elimination of waste in all its forms -whether it’s a waste of effort, material, time, space or energy -and we can all buy into that !!

Yes it can be apparently complex. So I find it useful to divide the sustainability issues into two main categories –The Mechanics (hard, management issues) and The Culture (soft, behavioural issues)

The Mechanics part is relatively easy to define and comprises three main elements of

- Infrastructure & Governance which has clear Leadership, Definition and Direction, with Steering Groups and Pillar Champions.
- Selecting the right mix of the well proven Lean / Operational excellence Tools and Techniques.
- Where progress is measured against well defined Milestones which have robust audit and review exit points that can be pinned back to specific Pillar Champions
This leaves the more difficult part of generating the right behaviours and a culture where your people (employees- from the Operating floor to the CEO) want to continuously challenge and change ‘the way we do things here’. Easy to state, but more difficult to deliver.

However, it never ceases to amaze me about this simple fact and belief-Namely, that as an employee-whatever my ‘rank’-I will do something different on four conditions:-

- Firstly, you actually seek and ask my opinion about the best way of doing this task.
- Secondly, subject to safety, conformity etc, you actually embody that opinion in our future ways of working,
- Thirdly, you give me a regular feedback of the result, and ……
- Fourthly you give me the training and time to do something about that result.

Conversely, if you impose it on me through your fancy new system-sure, I’ll tick a few boxes for you -but I will not take responsibility or ownership of the result-In fact I’ll tick the boxes at the start of my shift !!- So the message is clear….I have a mind of gold if you can tap into it !!

At the end of the day all I want is a hassle free shift-Not because I’m lazy-It’s because I really want to make a difference and work smarter (Martin please signpost to ‘a day in the life of video)

It is also perhaps worth remembering that the traditional Team Leader's job has changed dramatically over the last few years. Nowadays he or she has 3 x main thrusts to their role - With the proviso that it has the Proactive Support of their Process Owner or Manager

- To Manage & Deliver the Manufacturing Processes for that Shift on time, in full at the right quality.
- To Progressively Manage & Develop their Team / People
- To “Facilitate” some form of Target Driven Continuous Improvement

The first two are usually both a ‘Given’ & Accepted. If the third one is ever regarded as “Optional”- it will not happen!!

All of the above requires a major shift in Lean Leadership Behaviours based on

- **Standards** --- Which are Consistently Applied (both metrics and behaviours)
- **Responsiveness & Pace** --- When Deviations Occur (through clear accountability and expectations)
- **Continuous Improvement** --- By Stretching those Standards
- **Striving for Perfection** --- So We at least Make Progress
- **Specified Value Streams** ---throughout the organisation (not just Manufacturing)
- **Respect** --- For our Customer & Employee, plus our Products & the above Standards
- **Autonomy** --- Ultimately Putting our People.

The common denominator in all this is your People. It’s your employees who will make a difference. Also remember that Management get back the behaviours that they themselves exhibit.
Finally, Michelangelo is quoted as saying around the year 1450:-

- “…The greatest danger for most of us is not that our aim is TOO HIGH and we MISS IT, but that it is TOO LOW And we REACH IT.....”

I interpret that powerful message some 565 years on by suggesting:-

- If we STRIVE for PERFECTION through the 4 x zero’s (accidents, defects, breakdowns and unplanned interventions) we might not achieve it, but at least we will be MAKING PROGRESS