

“STOP AND SHARPEN UP!”



Dave Mallinger cut to the crunch quite literally by kicking off his presentation with a dramatisation much to the amusement of his audience. “I’d like to stop and sharpen my axe...but I’m too busy cutting down this tree.” Dave remarked. The point he was making is that TPM³ is an opportunity for us to stop and sharpen up. Sharpen up our processes, our equipment and ourselves. By doing this at the SCA Te Rapa site in New Zealand, the company was able to save an annual return of \$635,000, re-energise their TPM³ efforts and further engage their workforce in the TPM³ journey to world-class performance.

Dave Mallinger is the Shift Charge Hand and a 6500 Rewinder specialist at the SCA Te Rapa site. SCA manufacture a broad range of fibre based hygiene products including wipes, cloths and sanitary products. The Te Rapa site specialises in the production of paper towelling, serviettes and toilet tissue. Dave took us on his personal journey, which resembles The Hero’s Journey of Learning.

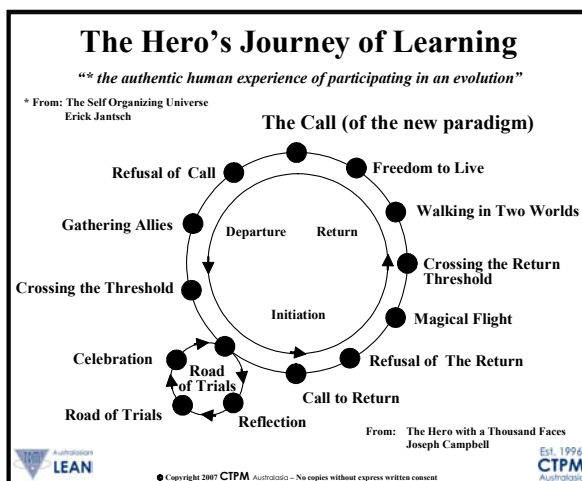


Figure 1 – The Hero’s Journey of Learning

Refusal of Call

Dave is the first to admit that he wasn’t a keen participant in the initial stages of the TPM³ journey. “I was coerced, pushed – some might even say ‘bullied’ into the team” Dave commented. By halfway through the 12 week activity cycle, Dave became a true advocate for TPM³ and started to believe in the positive impacts it could make in his workplace. The TPM³ Rewinder Focused Equipment & Process Improvement Team consisted of 7 members and was given a mandate to improve OEE by 25%.

Gathering Allies

The TPM³ journey commenced in a classroom environment. It had been a while since most of the team members found themselves in this scenario, 35 years for Dave in fact, which as he recalled wasn’t the most pleasant experience. Dave provided great insight about literacy issues in New Zealand workplaces and challenges faced by employees and companies, Dave himself included.

Being a ‘hands on’ type, Dave just wanted to “get out there and do it”. The site’s CTPM Navigator Anthony Burt continually (and frustratingly for Dave at the time) insisted “You need more data to back up your assumptions – so you can focus your energy where it’s needed.” Dave admits that he struggled with these first stages of the journey but persevered and did his best to contribute to the teams’ efforts.

The frustrations of running the 6500 Rewinder were also a great motivator. “A very frustrating machine to run to say the least – 5 years was starting to drive me nuts!” Dave remarked. Dave’s personal philosophy is that if we don’t have a solution we shouldn’t criticise the suggestions of others. He saw being a part of this team as a great opportunity to iron out these frustrations.

A major problem which the team faced was that TPM³ was perceived as a company initiative. SCA had recently acquired Carter Holt Harvey and rumours were circulating about the changes in store for Te Rapa. The site would now run a Monday to Friday operation. Staff became anxious about job security and a decrease in wages. In turn many adopted a “them and us” mentality reflected by their ‘Why help the company?’ attitude to work.

Being part of the TPM³ Team was perceived as “taking the company’s side” and many of the team members felt they were frowned upon by colleagues. This was a bitter issue for Dave as he didn’t appreciate this judgment being passed upon him or his team.

Crossing the Threshold

Finally the time had come for Anthony to unleash Dave and his team into the operations area. But this freedom came with plenty of pens and paper for the team to make observations of the 6500 Rewinder’s performance with. Observations were carried out and the information collated and interpreted. Dave was shocked by how slow the 6500 Rewinder was operating.

Operator Surveys were also conducted. The survey results and opinions of the operators displayed similar trends to the observations. Everyone liked the 6500 Rewinder and believed it was capable of performing more efficiently and effectively. However, there was recurring criticism of the Log Saw.

Two TPM³ Focused Equipment & Process Improvement teams had been commissioned on site, the 6500 Rewinder team and another team in the Wrapper area; the teams met and discussed where their losses appeared to be coming from.

The Road of Trials

According to the Wrapper team the main contributor to losses was waiting for rolls from the 6500 Rewinder. This was in conflict with the information gathered by the Rewinder team. At one end of the factory was a Wrapper waiting for rolls to come through from the Rewinder and at the other, a Rewinder waiting for a Wrapper to take rolls away. In the middle of these two processes lay the culprit, the renowned Log Saw, see Figure 2.

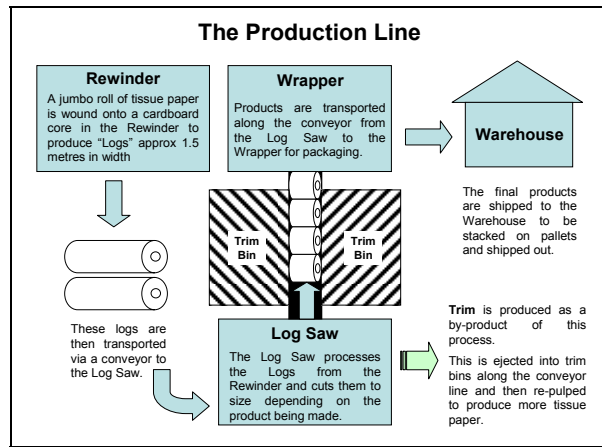


Figure 2 – The Production Line at SCA Te Rapa

Dave’s team was forced to shift their focus to the Log Saw. Within the first half hour of another observations an astounding 180 dropped rolls were counted. To minimise the amount of time taken to make observations, Dave devised a simple calculation to calculate the loss rate.

$$\frac{\text{Log Saw Capacity} - \text{Rolls on Pallets}}{100} \times \frac{100}{1} = \text{Loss Rate (\%)}$$

By making calculations each day over a 5-day period, the team estimated a loss of 4.6% of rolls, a staggering 2,727,392 rolls per annum. The team also observed the Combiner where four conveyor lanes from the Log Saw merge into two. It was jamming excessively with minor stoppages totalling 84 times a day – a significant disruption to the line.

The team calculated 168 minutes of downtime per day, based on a time of 2 minutes to restart. Maintenance was brought on board and identified the cause as simply a faulty valve, which was immediately replaced. Stoppages dramatically decreased overnight from 84 to 16.

Unfortunately the Log Saw was “a different kettle of fish... This machine was going to be our nemesis”. Once again Maintenance were brought on board in an attempt to address the situation. The conclusion - the Log Saw itself wasn’t the source of the problem, it was the transportation of the rolls along the line after cutting the logs.

The rolls were transported from the Log Saw to the Wrapper along the conveyor with a short section of vacuum to separate trim from the rolls. Achieving the correct amount of vacuum was a challenge itself. Too much vacuum rips the tails causing the rolls to unravel, yet not enough vacuum meant lots of dropped rolls in Trim Bins.

Refusal of the Return

Engineered solutions required a great amount of capital expenditure. The team had hit a roadblock as they couldn't find a solution to the problem. It wasn't until one of the employees asked "Why don't you support the rolls from underneath?" As this employee wasn't considered a specialist in the machinery / work area, team members were dismissive and laughed off his suggestion.

"You have to discard the trim," replied the other team members disapprovingly. The vacuum process currently allowed for the trim to be discarded along the conveyor from the Log Saw to the Wrapper Line. Again the man asked, "So why don't you accept the trim and find another way of getting rid of it along the line?" Dave recalled back to when this suggestion was made, "I had this dopey look on my face and when I turned to look at the engineer – he had the same look on his."

A new process was trailed on two of the four conveyers with extra support bars beneath the short vacuum section. "I remember dreading going to work the next day – I was expecting a riot...to be lynched by the Wrapper team because of all the trim that would have made its way down to their machines." But to his surprise, Dave was greeted by smiles when he hesitantly walked on site the following day.

Crossing the Return Threshold

During the night shift a Wrapper operator had grown tired of all the trim from the Log Saw. He had ingeniously placed two pieces of steel wire on the sides of the conveyor lanes. These wires would let the rolls pass through to the Wrappers but knocked the trim off the line. "It worked a treat!" exclaimed Dave. This innovative solution was transferred to the remaining conveyors and extra support bars were also installed.

With the new improvements in place, observations of the line were made once again. Dropped rolls reduced from 4.6% to 1.3%, and tails had also decreased. There were no jams experienced and there wasn't a roll in sight of the Trim Bins. "Peter Hockley (Production Manager and Team Champion) was really starting to smile." Dave boasted.

After a 12 week cycle the Rewinder Focus Area Team made its final presentation to management. Dave was very proud of the success of the Log Saw project and also found a sense of pride within himself for his contribution to the team and its efforts. "The 6500 was my baby and I took pride in its achievements." Dave said. The negativity which had clouded the TPM³ initiative was no longer as the buzz of success replaced it.

TPM³ had gained momentum and people were getting on board and forming teams. The TPM³ methodology was looked upon favourably with regards to SCA's expansion project. "TPM³ is a way of helping the company and also a way of helping ourselves." Dave explained. He stressed to the audience "You become empowered by TPM³; you're part of a vehicle for change. If you have ownership and empowerment, you're going to have a very motivated workforce." In his opinion this is the greatest benefit of TPM³.

Freedom to Live

The TPM³ philosophy grew within Dave as the journey progressed; he gained a thirst for more knowledge and fully adopted the methodology. He is now a firm believer that TPM³ is the best method to "sharpen your process."

Dave's journey of learning, the team's success, his amazing presentation and how he has overcome his own literacy issues, makes him a hero to us all. The solution to the Log Saw Area predicament cost \$32 for materials. The site is now saving a staggering 1,956,608 rolls a year equating to a \$635,000 return as a result of the team's efforts. Dave poignantly ended his presentation by rhetorically asking "Is TPM³ worth the hassle? You be the judge."

For more information about TPM³ – Australasian Lean contact Anthony Burt, NZ Managing Navigator on +64 7542 3018, CTPM Australasia Head Office on +61 4226 6184 or visit www.ctpm.org.au.

