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Always Keep Improving!

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The logo for Quality Support Group, featuring the words "Quality", "Support", and "Group" stacked vertically in white, bold, sans-serif font on a blue square background.

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A Lean Six Sigma Case Study - Perseverance for a savings of \$310,000/year

By Paul Hine, Senior Lean Six Sigma Consultant

Did you ever struggle with Management Commitment / Support? See how we helped one of our clients overcome!

QSG has come across many project teams that complain about a lack of Management Support. This case study explores the experience of a team in the Engineered Materials Industry that had little to no Management Support and the additional disadvantage of high employee turnover. The team was formed as part of a Lean Six Sigma Green Belt Class that met every other week for 1.5 hours of class time and 1.5 hours of hands-on project time.

The case shows how fact-based decision making, root-cause analysis tools and lean-six sigma techniques not only can save the company a lot of money but also can strengthen collaboration, gain buy-in and instill a sustainable culture of continuous improvement.

Identifying goal/Project Charter

For their Green Belt project, team members chose to address the production Set Up process in their organization, which involved running a test piece of coated fabric for approval before new production could begin.

Gather data

- ✧ Each test piece cost the company \$484.00, including the cost of materials and idle machine time (normally referred to as Set Up time).
- ✧ An average of 3.09 test pieces run per Set Up.
- ✧ An average of 55 Set Ups per month
- ✧ This process was based on four-shift operation and language barriers

Identifying opportunities for improvement

Team members met with the lead person on each shift to discuss strategies for reducing the number of test pieces run prior to production, with the ultimate goal of having the first piece pass. Through these conversations, two key areas for improvement were identified:

Opportunity A: Job traveler creation

Opportunity B: Adjustments made if a test piece did not pass.

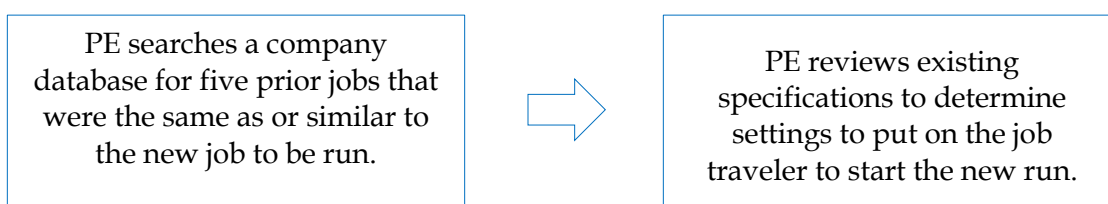
Organizing working groups

In order to address issues with job traveler creation and process adjustments, the team employed a coordinated split focus, with sub-teams focused on each variable. The team met for 1 1/2 hours on project time with the QSG consultant every other week as well as for 1 1/2 hours of hands on project time on the other weeks without the QSG trainer.

Root-Cause analysis & solution

Opportunity A - Job traveler creation

Understand and visualize the process workflow



Gemba walk and identify waste

- ✓ *Lengthy*: The database search alone took approximately one hour
- ✓ *Inconsistent*: Through direct observation and by scrutinizing check sheets, the team found no consistency between shifts regarding the way workers made adjustments when test pieces failed.
- ✓ *Not user friendly*: Team members also received informal and anecdotal feedback that the shifts found the current process frustrating.
- ✓ *Costly*: Management let it be known that the current process was expensive
- ✓ *Inaccurate*: Causing missed shipments, due to an inability of the company to create accurate production schedules.

Exploring potential solutions and focusing on one

One team member, with assistance from the company's IT department, developed a new method for accessing the company's database.

Measuring results

- ✓ Reduced search time by over 90% (from approximately one hour to five minutes)
- ✓ Helped the PE generate better initial settings, based on an increase in available data.

Root-Cause analysis & solution

Opportunity B – Adjustments

Understand and visualize the process workflow

The working sub-team went through the understanding of step by step process run of a test piece.

Gemba walk and identify waste

The team performed an observation of the various conditions that occurred during the test run and identified seven key influencing conditions.

Exploring potential solutions and focusing on one

Pilot & Best Practices: The team developed next steps, based on best practices validated through trial and observation. This work resulted in a Standard Work Trouble Shooting Guide that was refined through several cycles of the Plan-Do-Study-Act (PDSA) improvement model. Two more PDSA cycles were required before final approval Standard Work Documents.

Measuring results

With the support of the company's PEs and four shifts, the team reduced the average number of test pieces from 3.09 to 2.12 per run, which represented a hard savings to the company of \$309,856 per year.



Case final notes

The solutions the team developed not only led to incredible cost savings but also made work easier for the PEs and shift workers. Despite management and language-related challenges, the team thrived due to strong internal support. Team members learned the lesson that winning teams are learning teams, and that perseverance pays off in reducing frustration and providing company savings.

*Struggling with challenges similar to this or simply interested in a free assessment?
Contact QSG at 888-336-1124 Ext. 702 for more information and learn how we can support
your business!*

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