CASE STUDY

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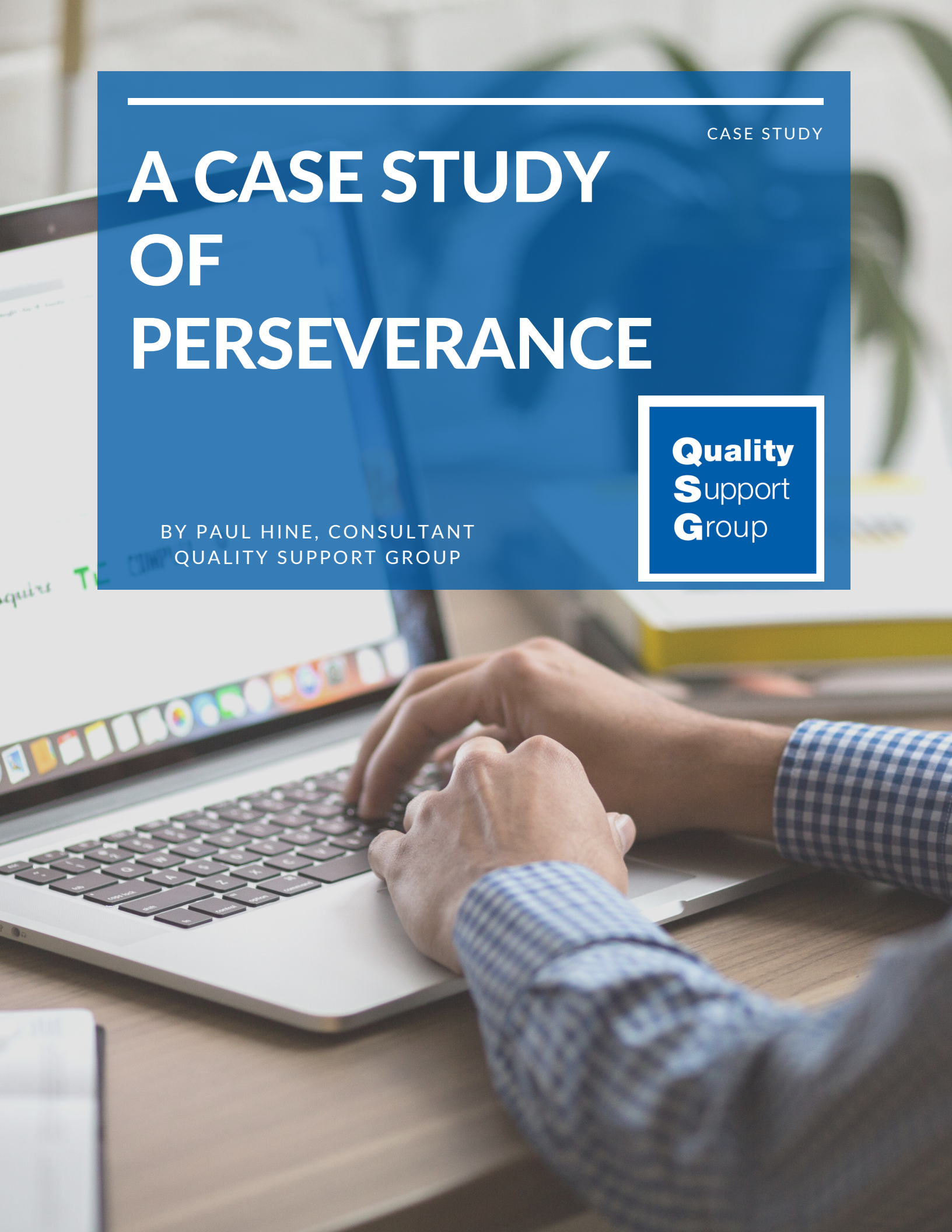

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QSG has come across many project teams that complain about a lack of Management Support. This case study explores the experience of a team in the Engineered Materials Industry that had little to no Management Support and the additional disadvantage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

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. Each test piece cost the company $484.00, including the cost of materials and idle machine time (normally referred to as Set Up time), and at the beginning of the project, the company averaged 55 Set Ups per month, with an average of 3.09 test pieces run per Set Up.

The company was a four-shift operation with language barriers. 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: job traveler creation and the adjustments made if a test piece did not pass.

When creating a job traveler, the Project Engineer (PE) would first search a company database for five prior jobs that were the same as or similar to the new job to be run. The PE would review existing specifications to determine settings to put on the job traveler to start the new run. The team discovered that the database search alone took approximately one hour, and they immediately identified the need for a more efficient process.

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. Team members also received informal and anecdotal feedback that the shifts found the current process frustrating. Management let it be known that the current process was expensive and causing missed shipments, due to an inability of to the company to create accurate production schedules.

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. One team member, with assistance from the company's IT department, developed a new method for accessing the company's database that reduced search time by over 90% (from approximately one hour to five minutes) and helped the PE generate better initial settings, based on an increase in available data.

For adjustments, a sub-team observed the various conditions that occurred during the run of a test piece. They identified seven key conditions and 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.

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. The solutions the team developed also made work easier for the PEs and shift workers. Despite management- and language-related challenges, the team thrived due to strong internal support. And team members learned the lesson that winning teams learn: that perseverance pays off in reducing frustration and providing company savings.