



Measuring quality: Quantitative and qualitative assessments and their roles in getting results.

‘Say what you do, do what you say’

In the special process world of the aerospace industry, companies with requirements of aerospace manufacturing must rely on the accreditation of AS9100 and the Nadcap requirements to process parts for airplanes. SAE, the body that developed the AS9100 requirements for aviation, space, and defense organizations, encompasses more the measurement of the quality management system, whereas the PRI body that manages the Nadcap requirements for special processes is more technical in the

details of the process.

The principles of AS9100 define the quality management principles of customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making, and relationship management. These principles, such as leadership and relationship management, are not best measured with quantitative approaches.

The Nadcap technical requirements of specifics of correction factors, instrument calibration frequencies, and surface contamination checks for microstructure are all quantitative measures that can be tracked toward the quest to quality.

Regardless of the more philosophical approach to business compared to the technical “nitty-gritty” approach to establishing a quality process, both requirements abide by the common phrase heard in the industry: “Say what you do, do what you say.” That phrase is likely on a banner in every quality manager’s office.

QUANTITATIVE ASSESSMENTS

Major/minor findings in the audit: These assessments are discovered during an audit, which can be nerve-racking. It can be an AS9100 audit, where they can choose anything in your system to investigate. Or it can be the Nadcap audit, with the black and white rules that must be followed with no deviations. Those who do not prepare, who don’t attempt to embrace the system, fret and worry the most. Audit findings usually are an indicator of how well the quality system

is performing at a company and whether or not the technical details are being met. After so many majors and a combination of minor findings, the audit can be deemed a failure, indicating that quality must be improved to minimize these findings.

Key process indicators: Another method of quantitative assessment involves the goals being measured at the company. Even though there’s a section in AS9100 that requires them, goals are important to have — required or not. They chart success and failure in a visible way, with graphs trending upwards or downwards with respect to the goal. It’s an indication of whether all the elements are aligned at the company in such a way that they work in unison to achieve the set number defined as the goal. Whether that means on time delivery or scrap reduction, these set numbers simplify the language communicated to the team of quality system and technical detail alignment



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in that everyone can be on the same page.

QUALITATIVE ASSESSMENTS

Let's face it, not every procedure will be written to define every movement at a company. Beyond the standard operating procedure for loading and unloading a furnace or grit blasting a part, there are aspects of the process for which a procedure is not a practical tool nor is it worth tracking how many words or letters are written in a given day to chart quality at the company.

Willingness to learn: What happens when you get a corrective action? Not surprisingly, most people hate it. With the corrective action come the dreaded tools of "Five Whys" or Fishbone Diagrams to reach the root cause of 'why' did it happen? Whichever tool is used, the activity itself requires a gathering of the team and a willingness to realize the opportunity that was missing in the process. And what is interesting throughout the process of 8D or other formal corrective action process is that this system forces communication amongst the team. Forces the employees to all get on the same page and work together to solve the problem. With this, team members are quickly identified as either seeing failures as opportunities or as just a way to complain more about their job. It is the willingness to learn that is really being measured.

Human relations: I've had opportunities where I worked at both large and small companies. And the one thing I often take inventory on is the overall attitude of the workplace culture. One of the simple measures that resonates with me in measuring overall quality at an organization are the human relations. How many of your bosses call you by your name or even remember your name? Upper management

talking to the shop floor workers is a good sign a company has a great overall team working together. How many small conversations can you have, but still be productive in a workday? These all add up as well to the bigger picture of getting product shipped out the door on time, and with the highest of quality.

CONCLUSIONS

Quality is not only a measure of key process indicators or numeric goals to hit and sustain. It is even beyond the "say what you do, do what you say," as no procedure can always capture all the things being performed at the company. The presence of promoting quality-type practices is beyond how many pieces of scrap to count or how many corrective actions you have. Nadcap and AS9100 hold companies accountable.

As each production day shifts from one to the next, each crew is expected to maintain this level of quality every day. It's a cycle of continuous improvement where we experience a problem or success and reflect on it to then take the necessary action. This requires quantitative measures to help structure the process and create a language for the company to all speak to achieve the quality goals. ♪

ABOUT THE AUTHOR

Tony Tenaglier is the heat treat process engineer at Hitchiner Manufacturing. He earned both a B.S. in material science engineering and an M.A. in psychology. You can contact Tenaglier at tony_tenaglier@hitchiner.com.

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