



Unknown Knowns: Rumsfeld Missed One—Will You?

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“There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say, we know there are some things we do not know. But there are also unknown unknowns—the ones we don’t know we don’t know.” - Donald Rumsfeld

When I first wrote about this in *Production Machining's* January 2014 issue, my approach was to use Mr. Rumsfeld’s quote to help us understand the risk and uncertainty that we faced in our decision making. After careful consideration, I believe that Donald Rumsfeld missed a category: unknown knowns.

What are unknown knowns? For the purposes of this article, I want to consider unknown knowns as capabilities and process knowledge in our shops that we currently have, but could become unknown to us over the course of time. They are unknown to us by retirements, loss of employees or re-assignments. While many shops refer to unknown knowns as tribal knowledge, these go beyond what the tribe knows. There are certain things for which we go to certain people. They are the best for, say, splitting a drill point or thinning a web or getting a job dialed in. But these are things that all of our team should know, but do not. They are unknown knowns. We know what they are, except that we won’t know them anymore when they are gone.

I am certain that there are unknown knowns in your shop. Not every process is documented, and reference documents surely do not exist for every subtask in an operation. In maintenance, especially, our people develop their own understanding and knowledge of certain processes and equipment; understanding and knowledge that is not captured nor recorded for retention, nor is it easily available in the case where that person is not on the job.

When I am asked to help solve machining problems at a shop, one of the first things I ask for is to look at process control charts for the operation in question to see if differences exist between shifts, machines and operators. The purchasing agent wants to blame the steel, but in my experience, the difference in knowledge and experience is across shifts, and different operators usually explain the differences in performance. The information that is lacking by the deficient producing unit is an unknown known. Why do we not have better systems for capturing the unknown knowns of our operations and office procedures?

- **Tyranny of the urgent:** We are too busy dealing with the day’s emergencies to devote any time, attention or resources to deal with knowledge retention and training issues.
- **Personal power trips:** Sometimes people feel that by having secret or unrevealed knowledge, they are somehow more valuable to the company. In my experience, these are the exact same people who absolutely refuse to accept the overtime that will be needed when the line goes down and their private knowledge is needed. What’s the point?
- **We think that everybody knows it:** Many of us in operations have the belief that if we know something, everyone else must know it as well. In the days when everyone came up through the ranks the same way and had the same training, that might have been true. Today, our performers all come to us from different pathways and with different experiences.
- **We haven’t really thought about it:** While you might think of this as a subset or corollary of the tyranny of the urgent mentioned above, it is not. In this case, we haven’t even thought about it.

There are probably more reasons than these, but clearly if we are not to lose our capability, we need to know what we know and capture it for our entire team.

What is your plan for harvesting the ‘unknown knowns’ so that your team and your culture can continue to thrive?

Knowledge retention—it’s a team thing. Deming’s 14th and final point is really the key to solving our unknown knowns issue. It states, “Put everybody in the company to work to accomplish the transformation. The transformation is everyone’s job.” It is up to all of us to recognize and share those knowledge practices that make our shops competitive. What are some of the best ways to capture our tribal knowledge so that we have no unknown knowns?

Creating a cross training matrix on jobs and training with every employee included is a great way to track

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and help inform your team of the status of its training accomplishments. Posting this for all to see can help provide some positive motivation to learn as well as point out the vulnerabilities we may face down the road.

Celebrate the weird, strange and unusual. When the weird, strange and unusual happens in our shops, and it is dealt with appropriately, celebrate and publicize the win.

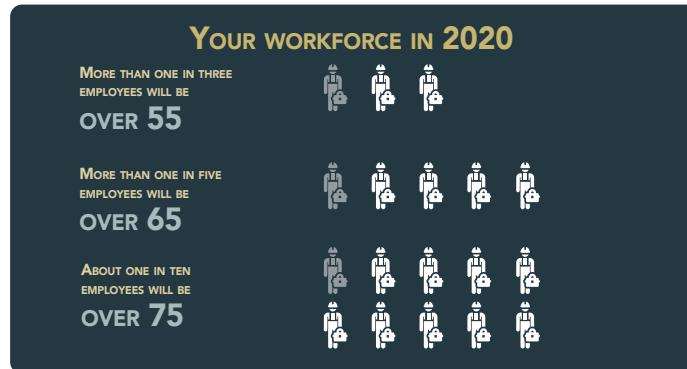
Use the technology. These days we have all the technology that we need in our mobile phones. It is a camera, video camera and a sound recording device. Do you empower your team to use today's technology to make reference materials that will help them to do a better, faster, more efficient job the next time? Why not?

Your Workforce in 2020

In less than 4 years, we will be in the year 2020. Here's what your workforce will look like:

More than one-third of your employees will be over age 55. Conversely, two-thirds of your workforce will not. Who will be training the majority of your workforce, and do you have a plan?

One-fifth of your employees will be over age 65. What they know will be vulnerable to looming retirements and the beginnings of old age loss of mobility. These are the folks that know your unknown knowns, and they will be vulnerable.



Of your employees in 2020, 1 in 10 will likely be over age 75. What is your plan for harvesting the unknown knowns so that your team and your culture can continue to thrive?

2 GREAT BLOGS!

YOURCAREERFACTS.COM
PMPASPEAKINGOFFPRECISION.COM

HOT TOPICS

PMPA members support one another through email Listserves, where they can solve problems, share advice, sell excess material and equipment, and learn about new developments and opportunities. Here is a list of topics that were recently discussed:

- How to machine molybdenum
- Ultrasonic cleaner recommendations
- Transferring programs from PCs to machines
- Source for acorn dies
- Passivation finish
- 316 SS tapping
- Production drilling fiberglass
- 440C turning
- Cross drilling on ServoCam CL
- ESR vs. vacuum melt steels

PMPA CALENDAR

For the latest chapter meeting information, please view the "Events" listed on our homepage at pmpa.org. If you have any questions about PMPA conferences or meetings, please contact Monte Guitar, Director of Technical Programs, at 440-526-0300 or mguitar@pmpa.org.

2016 Annual Meeting

October 21-25, 2016
Westin Hilton Head Island
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