

DAVID A MARSHALL CONSULTING INC.

LEADERSHIP IN PRACTICE

A COLLECTION OF STORIES FROM MY 20+ YEARS
AS AN EXECUTIVE IN MANUFACTURING
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FOUR THINGS TO KNOW BEFORE UNDERTAKING DIGITAL TRANSFORMATION

Taking on a digital transformation — not just switching from an analog process to a computerized one — but actually transforming your manufacturing process from a staff-and-labor driven process to one that's managed more by computers is going to be a serious undertaking. We underwent a digital transformation at a factory I ran several years ago. We had a factory that employed 140 people, cost as much as \$1 million in environmental remediation and \$2.5 million in waste. We tore the entire thing down and started over with an nearly-fully-automated process that employed 20 people, cut our remediation costs to \$0, and our waste to less than \$10,000 per year. Of course, we learned several important lessons along the way.

1. YOU MAY LOSE STAFF IN A DIGITAL TRANSFORMATION.

Right or wrong, automated equipment and artificial intelligence will reduce the need for low-skill, repetitive jobs. You no longer need people to move raw materials into position, or move partially-completed products to another machine if you've got an automated system that can do it all for you. You can set up your production line so all the machines move in order of production, and have them automatically moved between machines, rather than relying on your associates to do it. This worked to our benefit because we had several employees who were less-than-ideal employees in our old system. We kept and retrained the best employees to work in the new system and they helped the new factory run very well.

2. YOU'LL NEED SPECIALIZED STAFF. Of course, this also means you'll need people who are capable of running the new machines. For example, if you buy a new CNC router for your production line, or replace a few manufacturing machines with a 3D printer, you're going to need people who know how to operate and maintain those machines. While you may have been paying someone \$20 per hour to be able to operate the old systems, your new operator may earn as much as \$50 – \$75 per hour. Of course, the new system will be faster than the old one, and you may be able to cut down on overtime or even an entire shift, and end up saving more money by employing one specialist rather than four or five generalists. Consider retraining your old staff rather than conducting national searches for those highly-skilled specialists. Your old staff will understand how things are supposed to be done, and you'll already be a few steps ahead in staffing up your new operation. ...continued page 3

3. YOU NEED TO MEASURE ALL PROGRESS.

Digital transformation requires that you measure everything. How else are the machines going to be able to perform effectively? And how else will you know whether the digital transformation is actually meeting its project goals? When we built the new factory, each work cell could capture 44,000 pieces of data per shift. We had four cells in our factory, which meant we were gathering 176,000 pieces of data per shift. From there, the data was shared through our measurement dashboards. We would watch things like production rates, critical steps in the manufacturing process, and even the status of the equipment itself. And we were able to measure how quickly and easily the new system was paying for itself.

4. YOU NEED BUY-IN FROM THE TOP EXECUTIVES

If you're not one of the top executives leading the digital transformation yourself, you're not going to get very far if you haven't been given carte blanche decision making over the entire operation. That means that not only do you make the decisions and implement the new policies, you have to be given time to iron out all the wrinkles in the inevitable shakedown period. There will always be problems when you make any major change in your organization, and turning an analog operation into a digital one is one of the biggest you can do. I remember once when we changed out one of our ERP systems and people weren't having it. I was ready to scrap the entire system until our controller sat me down and explained that the problem wasn't the system, it was the users who were not trained in its proper usage. So I required everyone in their jobs to create written procedures for their own function within the new system as a way to ensure they were using it properly. But if we hadn't had my buy-in, I would have turned a difficult solution into a very expensive failure. Too many executives will fold a change or revamping of processes if they see things aren't going well, rather than requiring everyone in the company to embrace the new change and move on. End

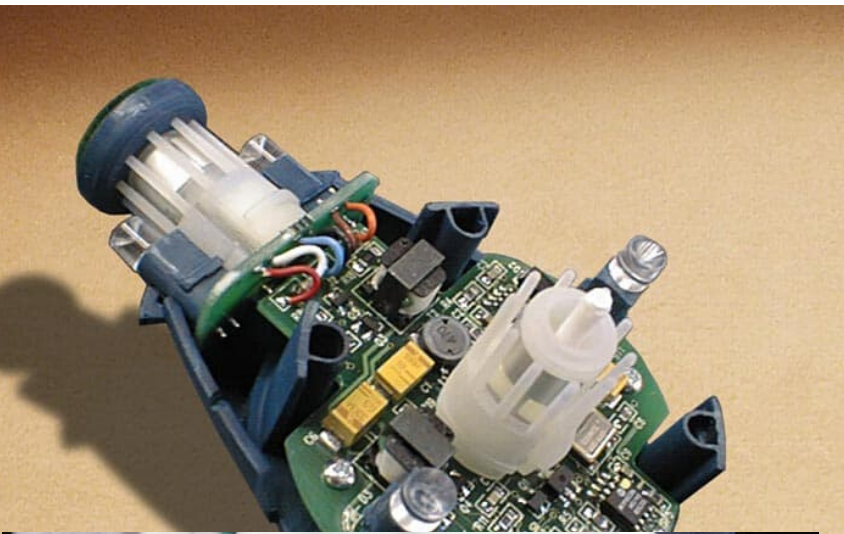


SHOULD MANUFACTURERS PAY FOR EDUCATION TO SHORE UP SKILLED LABOR SHORTAGE?

There's a skilled labor shortage in this country, but not the kind that you might think. While there are still plenty of people to fill regular manufacturing jobs, there are high-paying, skilled labor jobs that are going unfilled because the companies can't find enough people with the degrees or training to actually do the work. For example, as 3D printing and 3D manufacturing becomes a bigger part of our manufacturing world, there are fewer people who know how to design 3D objects on CAD systems, service the machines, and repair them when they break down. Oh sure, you can always train someone to take the finished product off the production bed, load the 3D printing hoppers or put metal into a panel for a CNC machine to cut it. The CNC machines have gotten so easy to use that, with a little training, anyone can operate one. But many companies require someone with an associate's degree, or at least a certification, in order to become a qualified CNC machine operator. And it often takes a college degree, or at least more high-tech certifications, to program and maintain things like industrial 3D printers, robotics, and other workplace automation machines. This is where it makes sense for companies to actually pay for the training and education of their employees. Rather than conduct a six-month search for someone to manage your company's robots, another sign of the skilled labor shortage, why not train a couple of your employees? This will not only make the search easier — just ask your floor managers who would be able to handle that kind of responsibility —

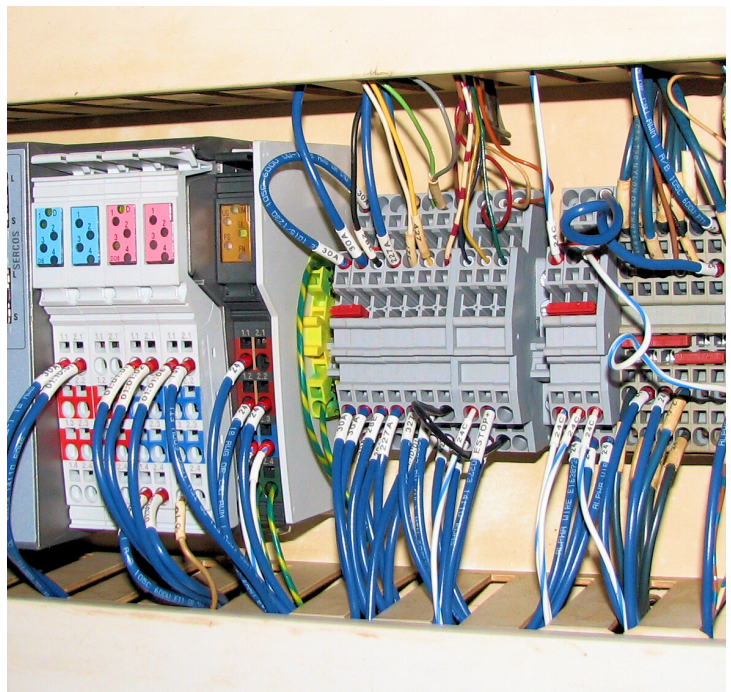
but you can make paying for their education a part of their work requirements. For example, offer to pay for their education for two years if they commit to staying with the company for another four. In Anthony Bourdain's book, *Kitchen Confidential*, Bourdain talks about his old boss, Bigfoot, and how he avoided paying for expensive repairs on the various equipment. He had trained several porters to perform repairs on different areas around the kitchen. Whenever there was a problem, Bigfoot would send his porters to fix it, rather than wait for a third-party tech to show up two days later and charge \$500 to fix it. Bourdain said this crew was. . . "a Presidential Guard of blue-uniformed porters whom he had personally trained in the manly arts of refrigeration repair, plumbing, basic metal work, glazing, electrical repair and maintenance. In addition to the usual tasks of cleaning, mopping, toilet-plunging and porter work, Bigfoot porters could lay tile, dig out a foundation, build you a lovely armoire or restore a used reach-in refrigerator to factory specs." — Anthony Bourdain - So the best people to hire to operate and maintain your high-tech machines are the people who are already operating them. It was always my philosophy that the people who operated the machines should be involved in the design, implementation, and operations of those machines so that it was a continuous learning process. The more they learned, the better they could make the machine work, and the more problems they could fix. So why not take the best of those associates and give them the training to make them even better? The individuals actually get a sense of ownership because their opinion in terms of the machine's design, its operation, and even its safe use, is highly valuable. Interestingly, the operators in your workplace already know all this stuff and they will know more about it than management. And if you have custom machines, or off-the-shelf machines that have been changed and updated to fit your particular needs, you can't bring in an outsider who will know as much or more than your crew.

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Oftentimes, we included the operators in the planning and execution of projects and sent them to the vendors to prove out the equipment and be fully trained before we took delivery of it. This did indeed create a sense of ownership on the part of our associates and also helped in creating “bench strength.”

That means if you involve them in the development and implementation, you actually get a two-fer: you get a more committed individual, but he or she is on a continuous learning curve. So if the workers are going to be displaced, incorporate them into the future so you don't have to displace all of them. Of course, you will still end up with an excess number of workers, but natural attrition will help solve that problem for you ultimately. And selecting the best and brightest from among your pool of workers will help your company run better, more efficiently, and ultimately, more profitably, and it will help shore up the skilled labor shortage in this country. End



HOW MUCH INFLUENCE SHOULD EMPLOYERS HAVE IN EMPLOYEES' PERSONAL LIVES?

There are all kinds of stories about social media misbehavior. In the early days of social media, there were plenty of stories about people who would complain about their jobs or their supervisors on Facebook and Twitter only to be fired once the company found out about it.

Even today, there are stories of people saying and doing racist things that get reported on social media, only for them to be fired a day or two later.

The companies (rightly) don't want to be involved with someone who behaves so terribly that they embarrass themselves and the company they work for. But what about the person who doesn't like the way a company is being run? A flight attendant who complains about their airline, a theme park employee who tells stories about terrible customers, a waiter who publishes a tell-all blog about their snooty diners.

Does a company have the right to terminate that employee, just because they don't like what is being said about them?

Bottom line: Yes, they do.

For one thing, many companies are based in right-to-work states. That means there's no union protection and a company doesn't always need cause to fire their employees. This doesn't mean they can violate federal employment law, but if an employer wants to fire an employee for wearing a t-shirt supporting a rival college's football team, they can do it. Continued page 6

This also means employers have the same rights to terminate an employee if he or she posts anything that denigrates the employer on social media.

When I was in charge, the line I drew in the sand was just basic common sense. If you're going to post anything on social media, and it has anything to do with the enterprise, then the enterprise has got the right to take action. I was always clear and up front with employees:

I said, "Yes, I will monitor social media." It's not fair to weaponize social media to vent your spleen or to otherwise hurt other individuals, your colleagues, or even your employer. That's like using kids using social media to bully other kids at school. That's just absolutely intolerable.

I saw social media usage as the real face of the employee, and the insight into who they really are. It certainly tells you how they're really thinking, irrespective of how they represent what they're thinking, especially on the job. In other words, if you're racist on social media, you're going to be racist (or at least harbor those secret thoughts) at work. And I wasn't going to have it.

CAN COMPANIES HAVE A SAY IN AN EMPLOYEE'S HEALTH AND EXERCISE PROGRAMS?

This is a big tougher. Can you draw the line at saying an employee can "only have X number of kids" or "must have at least X kids?" No, that's too far.

Similarly, we couldn't create rules saying employees couldn't smoke or eat fried foods, or that they had to exercise three times a week. So instead, we had to encourage and reward positive behavior.

From a purely business standpoint, I always believed it was a very smart thing to have a very robust Wellness program at our company. That included things like the company paying for everyone to have blood work done and providing mammograms for women.

We also extended this program to our associates' spouses as well. By doing this, I also discovered a relatively high percentage of our associates who don't have a primary care provider. With this program, our people could have a medical professional who would help them monitor their health at least once a year. I remember one case where we got to somebody in time before they actually had a stroke. A

nd at least monthly there were medical professionals who came into the company and gave lectures on nutrition, health, and so on. Finally, once a year, we paid for everyone to get a flu shot. That ended up reducing absenteeism and also ended up reducing healthcare costs. So not only did it have a human benefit, it also had a financial benefit.

And, as I wrote about a few weeks ago, it helped employee retention as well. Providing this extra care made people want to stay, which meant we reduced our turnover rates and our recruiting costs. In the end, if an employee's private behavior affects the employer, then the employer has some say in the employee's private behavior.

Think of Elon Musk and some of the things he's said on social media, such as taking Tesla private again. It had a major effect on the stock prices, and so the shareholders had something to say about that — his private behavior had an effect on the company, and they were correct in their reaction. Just like Elon Musk, anyone who posts on social media has constituents and people who are affected by what they do. And when that happens, the employer should have some say in what the employees can and can't do. End



About David A Marshall

David Marshall is a Senior Manufacturing Executive with Corporate Culture Development and Operational Excellence Expertise. David most recently was President and COO of Robroy Industries and Board Member where he oversaw this manufacturing organization with four locations in the USA producing high quality electrical products and oilfield products. During his tenure he worked hard on implementing cutting-edge technology into these facilities during renovations of several of the plants and build out of one ultra-modern 130,000 square foot manufacturing facility in Texas. With David guidance, these companies saw a remarkable seven record years of profitability; eleven consecutive years with profitability exceeding 20% of revenue; and more than \$300 million added to the equity of the business since going private in 2001. David earned his MBA from the University of Virginia: Darden School of Business. He currently consults manufacturers looking to achieve operation excellence. His motto is: "If you can't measure it, you can't manage it."

He has been a manufacturing executive, as well as a sales and marketing professional, for a few decades. Now he helps companies turn around their own company by making the right decision. If you would like more information, please visit my website and connect with me on Twitter, Facebook, or LinkedIn. <https://damarshall.consulting/>