

# Finding the Next Generation of "Board Rats"

by Steve Williams

THE RIGHT APPROACH CONSULTING



## Introduction

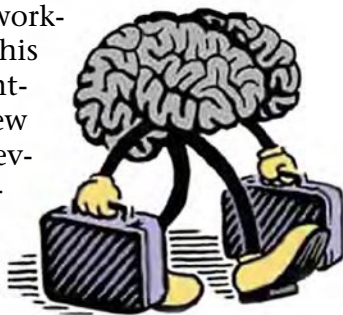
Owners of printed circuit board shops across the country are united in their top concern for their businesses: finding new talent. While this problem crosses all industries, what is unique is the complexity and learning curve of our business.

## What is a board rat?

We old-timers affectionately refer to ourselves as board rats; we are lifers in the industry who truly share a passion for building printed circuit boards. For most of us, this was one of our first full-time jobs, starting out sweeping floors, shearing laminate (yes, manually), sanding panels, and doing all the grunt work that "back in the day" meant we were paying our dues. We grew up with the business, could never imagine doing anything else, and advanced through the ranks by good old-fashioned hard work. Many went on to become industry leaders, which includes developing new technology, running plants or owning a shop.

## Brain Drain

There is no question that America has an aging workforce, and once again this is neither unique to printed circuits, nor a new phenomenon. However, in my humble opinion, the talent issue facing PCB leaders today is the most challenging I



have seen over my 40-year career. The aforementioned passion is the most troubling part of developing the next generation of PCB craftsmen. In fact, I had this very discussion recently with Mark, an old friend who owns a board shop.

As we spent some time catching up and talking about business, I asked Mark what kept him up at night. He said, "Steve, that's easy—people. I've got several key employees who have been with me since I started the company who are planning to retire in the next couple of years. I just don't know how I am going to replace that talent." Mark went on to lament that the younger people he brings in just do not "love boards like we do." He told me about a recent hire who showed exceptional promise, was absorbing everything like a sponge, and who everyone had very high hopes for. After months of training, she just did not show up for work one day, and Mark never heard from her again. Unfortunately, this is not a one-off.

## Dwindling Talent Pool

One of the root causes of this lack of talent is the sheer decimation of the U.S. printed circuit industry. In the mid-1980s, there were more than 1,500 printed circuit board manufacturers in North America. As of this publication, there are only 253 North American PCB

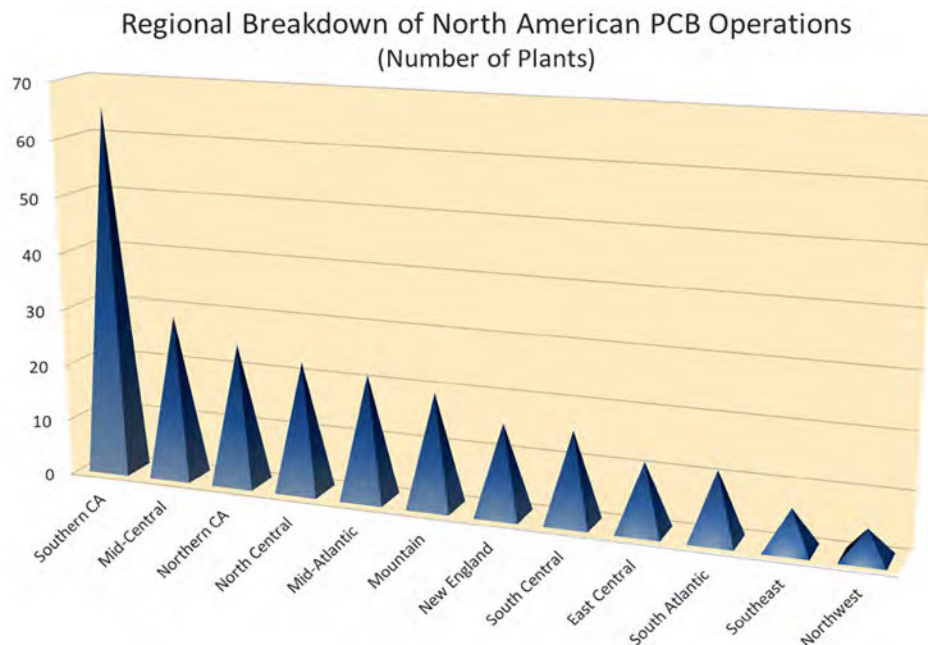


Figure 1: California remains home to the single largest concentration of U.S. PCB fabricators.

facilities (Source: FabFile Online, 2017). Subtract the organizations with multiple facilities plus the companies with primary operations in other countries but may have a plant or two in the U.S., and the real number is closer to 200. I have been tracking this trend for 20 years and predicting the future state-of-the-industry during my lectures. This year at IPC APEX EXPO, my projections for the number of “real” North American operations was 165 operations in 2020 and 100 in 2025. I have been fairly accurate over the years, and if these numbers hold up, it will be staggering. Breaking it down regionally is particularly instructive as it relates to this issue (Figure 1).

Depending on where your shop is located, Figure 1 highlights the dwindling talent pool from which to pull from. Another recent discussion with my friend Dave reinforced this truth. Dave is also a printed circuit board shop owner with multiple facilities. One of his shops is in an area that used to be a mecca of PCB manufacturing, but now finds himself one of the last men standing due to acquisitions, consolidations and closures. Finding local experienced PCB employees is next to impossible and he now competes with tech companies offering office jobs and

plush environments. His biggest problem used to be losing a skilled worker to the local competition for \$0.50 more an hour, a problem he would love to have back!

### College is a path, not a right!

A changing society is as much to blame as anyone for the lack of bench strength in our U.S. manufacturing companies. Any young person will probably tell you that college is not a privilege; it is a right. (If you really want to blow your mind, ask them who they think should pay for it.) Not to

paint all young people with an overly broad brush, as there are plenty of hard-working kids with their heads on straight, but compared to past generations, they are a bit of an entitled bunch. Remember the aforementioned hard work, dues paying and understanding that you have to earn what you want? Not so much with today’s youth. Right out of college they expect a cushy desk job with an office and a high salary because they paid their dues just by going to college.

I don’t blame the kids; I blame the educational system that teaches them from a very early age that college is the only choice, and that they are entitled to it. Remember when college was just one of three potential paths that high school graduates could pursue? The other choices were the trades or to enter the general workforce, both providing just as many opportunities, if not more, than the college path. Contrary to what our children are being taught, college is not for everyone, and certainly not for every job. What we have now is an awful lot of college-educated 20–30-somethings asking, “Do you want fries with that?” or choosing to live in Mom and Dad’s basement because getting their hands dirty in a factory job is beneath them. I remember guidance counselors

who actually helped students determine what to do with their life, not just what to do in college.

Second, I also place blame with the parents! We have been seeing the “participation trophy” generation entering the workforce for a while now, and the results are not pretty. Parents who push kids into college to earn a degree that there is little market for are part of the problem. Encouraging their kids to stay at home far longer than ever before are enabling the entitlement syndrome that has created the situation we are in relating to the next generation of manufacturing craftsmen and women. Taking five, six, or even seven years to graduate with a four-year degree is now the norm.

I could write an entire book on how the participation trophy philosophy is leaving our kids ill-prepared for not only work, but life. Sorry kids, but life is not fair, never has been, and never will be. Our children have lost the ability to handle failure and learn from their mistakes—invaluable life lessons. A recent Fox poll of current university students really highlights this point. When asked “What age do you consider yourself an ‘adult’?” The overwhelming response was 30! Wow. When we original board rats were growing up, the answer was 18, and we couldn’t wait to get out on our own.

### Not Just Our Industry’s Problem

A good friend of mine, Tom, is president of a sheet metal fabrication company. He tells me that the hardest position to fill is for welders. Welding is a physically demanding, dirty job that requires lots of specialized training and certification. He has to fight with local competition for the finite number of good welders because no one is coming out of high school getting into apprenticeships. Same story for machinists, electricians, plumbers and machine operators.

### So, what do we do?

Fortunately, not all young people embrace this mindset, but we must change how, and where, we look for this talent. You can learn an awful lot about people through social media before you hire them. If you really listen, the folks that

presentable  
 Skilled  
 respectful  
 Flexible  
 IDEAL  
 EMPLOYEE  
 compassionate  
 hard-working  
 Adaptive  
 motivated

may not be the right candidate for you from a work ethic standpoint will usually let you know that through their social media accounts.

Shining examples do exist, if you look hard enough. Speaking as a totally biased proud dad, I do have some personal experience in this arena. My daughter was a four-year elite athlete and finished college in four years with honors, got a great job and bought a house at age 25. My son spent four years in the U.S. Coast Guard and is now about to become a police officer. Both would be considered millennials and both are not shy about calling out slackers, no matter what generation.

Another shining example is Davina McDonnell, director of marketing at Saline Lectronics Inc. Davina is publishing a great series of articles with I-Connect007 titled “Millennials in Manufacturing” that is spotlighting the amazing work being done by millennials at her company. So... there is hope!

It’s up to us to cultivate the next generation of board rats. Get involved with your local school districts and campaign for change. Let them know about the jobs that are available in the real world, and the skill set needed from their students to do those jobs. Be vocal about the fact that college is not the only choice, that the trades and skilled general factory work are just as honorable as college. Offer internships for high school graduates and work with local technical colleges and universities to do the same. I had a great interview with IPC President Dr. John Mitchell a few months ago, and John discussed some exciting new programs they are launching to train people in the skill set needed to work in the PCB manufacturing industry.

As usual, it’s up to us to ensure the sustainability of our industry. **PCB**



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