



LEADING EDGE

BY VIVEK WADHWA

OVER THE HILL AT 40

Tech graduates face a career roller coaster.

The ugly reality of engineering — one that no one wants to admit — is that it is an up-or-out profession. If a 40-year-old engineer is doing the same job that can be done by an entry-level worker, he or she is headed toward unemployment. This is the case in the most fast-moving fields of engineering, with the software industry being particularly brutal. Why should a company pay \$150,000 per year to an older worker when it can hire a fresh graduate for one third as much? After all, the graduate is likely to have more up-to-date skills and will work harder.

This accounts for a paradox in the technology world: that while Silicon Valley salaries shoot through the roof, tens of thousands of highly experienced engineers are unemployed. If you listen to the heart-wrenching stories of the older engineers, you learn that many have great skills, but no one wants to hire them.

Facebook founder Mark Zuckerberg summed up Silicon Valley's mentality when he told the *New York Times*, "Someone who is exceptional in their role is not just a little better than someone who is pretty good...They are 100 times better." The exceptional people that Zuckerberg refers to are almost always young.

I don't agree with Zuckerberg or the Silicon Valley mind-set. Before becoming an academic, I founded two software companies. Over the years, I hired hundreds of engineers. I found older workers to be a little less productive than the young but much more pragmatic and loyal, and better team players. I didn't pay older workers the same salaries they made at their peak, though. Most often, I paid a worker with 30 years of experience the same wage as someone with 10 (in today's dollars that would be close to \$100,000 per year). These workers were always grateful, stayed with me through the good and bad times, and had the best attitudes.

Is Zuckerberg — and Silicon Valley — wrong in this age discrimination? Lawyers might make different arguments, but my belief is that we can't force companies to hire workers that they believe are less qualified or less productive, just as we can't require the NFL to hire any but the best athletes.

These days, some unemployed workers and anti-immigrant groups blame foreign workers for their — and the nation's — woes. They argue that if we restricted immigrant visas, their problems would go away. They wouldn't. Companies would simply do what they used to in the '70s, '80s, and '90s, before we had an influx of skilled immigrant engineers: hire people from other professions and train them for entry-level jobs. Silicon Valley's productivity would surely fall. And protectionist policies would make American industry less competitive and shrink the overall employment pie.

What then can be done for the engineering profession? To start with, we need to acknowledge the reality. Our colleges need to prepare engineering graduates for the roller-coaster ride they are going to be on. Students need to be taught that experienced engineers are needed mostly in senior design or software architect positions and in

management. If they don't want these jobs, then they need to switch to jobs such as sales or product management, or to become an entrepreneur, as they reach middle age. Engineers need to keep learning and build skills that make them more valuable to their employer as their careers progress; they need to get into positions that can't be filled by entry-level workers. They also need to prepare for their salaries to fall as they approach their 50s. This means saving money when times are good.

Of course, there are engineers who become so good at what they do that they are indispensable to their employers. They can justify sky-high salaries. There are rock-star software engineers, for example, who can outcode and outthink the new kids on the block. But these are the exceptions. Those we need to worry about are the majority.

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