



Millennials in the Structural Engineering Workforce

By Greg McCool, P.E.

As sure as the Earth keeps turning, each generation finds ways to stereotype the ones that preceded it. Generation “Y” or the “Millennial” generation is no different, and it has no shortage of opinions on preceding generations. *Those in the Greatest Generation are curmudgeons who are out of touch with technology. Baby boomers define their lives by their work and are overly competitive. Generation Xers are greedy, cynical, and blunt.* The youngest entrants to the structural engineering profession (who happen to be Millennials at this point in time) must ascertain to what extent these stereotypes are true and how best to navigate them. Let’s consider how the differing viewpoints of generations lead to struggles and miscommunication by following the career path of a hypothetical young structural engineer.

Trouble starts as the engineer, fresh out of college, begins the search for employment. Increasingly, young job seekers value company culture and various “perks” over direct compensation. Millennials hear stories about the flexible hours, amenities, and collegial atmosphere at tech companies like Google and Facebook. Why wouldn’t you want to work at a place where you can bond with your coworkers over Ping Pong and organic food buffets? These whimsical but often unrealistic expectations of work environments may result in head-scratching from baby boomers and their older peers, who tend to have a more utilitarian approach to setting up an office.

While perhaps more nebulous and harder to define, the millennial generation is also marked by its desire for work/life balance and future leadership opportunities. In a recent survey conducted by Deloitte on those born after 1982, respondents listed “good work/life balance” and “opportunities to progress/be leaders” as the two most important criteria by which they evaluate job opportunities after salary and benefits. Given that structural engineering firms do not desire and cannot afford to engage in bidding wars to hire young engineers coming out of college, it is important for hiring managers to consider what else is valued by millennial job-seekers. Most firm leaders are currently baby boomers or Generation Xers who may tend to overlook the non-salary criteria.

Assuming the bright-eyed engineer has found a meaningful job at a casual, perk-filled workplace, the struggles continue as he or she dives into the day-to-day. Young structural engineers consider themselves masters of technology. They are fluent in Microsoft Excel and can operate analysis software as quickly as tying their shoes. Unfortunately, these proficiencies, coupled with a lack of experience, can lead the young engineer to create inaccurate models, rely solely on computer output, and disregard the first principles and limitations behind a software program’s operation. Often, the young engineer’s work is located entirely within the computer model, with no written record of modeling decisions made, input, analysis results, and member design. An older engineer utilizing the Moment Distribution Method and various rules of thumb would rightly consider this lack of “engineering common sense” to be quite alarming.

On the soft skills side of the profession, some young engineers are frustrated by older colleagues who do not respond to electronic communication with urgency. This lack of immediacy can be blamed on Millennials coming of age with texting and social media, in which responses are expected to be instantaneous. Similarly, regarding feedback from management, millennials were showered with near-instant praise from parents, teachers, and coaches throughout their youth, and they expect the same through college and into the workforce. Needless to say, the more stoic baby boomers tend not to provide this sort of feedback immediately unless something has gone seriously wrong, and they probably wonder why their younger colleagues need to be coddled so much.

Suppose the young engineer, having spent some time with a particular company, begins to look for a new job opportunity. Increasingly, this conversation happens sooner for young engineers than any generation preceding them. Results of a survey reported in *Forbes* show only 13 percent of millennials believe that workers should stay with the same employer for at least five years, compared to almost half of baby boomers. Millennials are a generation full of people content in swinging from vine to vine. However, such

ambition can be construed as flightiness and disloyalty to older engineers who tend to be more devoted to their employers.

In addition to switching jobs in order to find better opportunities, an alarming number of young engineers feel compelled to drop out of the profession entirely. According to a study conducted by the SEI Young Professionals Committee and reported in *STRUCTURE* magazine (April 2015), almost 30% of structural engineers who leave the profession do so because they felt discriminated against (most within the first six years of employment). Because society has changed considerably in recent decades on issues of race, gender, and sexual orientation, younger engineers may have more progressive views and expectations in these areas. Encountering overt or covert discrimination is jarring for those affected and remains a problem that the structural engineering community needs to address.

Young structural engineers entering the workforce today have many strengths. However, their weaknesses, including perceived disloyalty and lack of common sense, should not be overlooked. What is the way forward? Young engineers must reframe their perception of the older generations so that negative stereotypes become positive traits to emulate. Revisiting the opening paragraph, *those in the Greatest Generation are solidly grounded in the fundamentals of engineering and have unsurpassed common sense due to years of “pencil and paper” practice. Baby boomers are loyal to their companies and go to great lengths to win new work. Generation Xers display excellent business acumen and are not afraid to speak up if something is not right.* Conversely, these generations must recognize the positive change that a generation of open-minded, ambitious and tech-savvy structural engineers brings to the table. At the end of the day, everyone is in this industry together. Young or old, we must all make the most of the opportunity to learn from other generations. ■

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FOOTNOTES

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