

The Future of the Structural Engineering Profession

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It is possible that our commonly-held perception of what constitutes a professional structural engineer is too narrow, and lacks focus. The design/construction industry is very dynamic, and is changing rapidly. It is easy to get confused about who we are, where we are heading, and how we should be prioritizing the single commodity which is in highest demand: our time.

Consider the following in support of this notion. There are numerous consultants who would like to provide us with help in conducting our professional practice activities. There are accountants, attorneys, and other financial types who help us out with our financial systems. There are marketing folks who teach us how to get more work. There are management consultants who figure out what our organizational charts should look like. There are IT experts who teach us the new, right way to produce our documents. There are HR gurus who hire, fire, and retain our staff. There are insurance brokers, insurance companies, and attorneys who assist us with professional liability issues. And so on. Is there a structural engineer anywhere in this picture? The array of support services which are pushed our way is confusing, and it is hard to figure out how we should prioritize our time.

What does it mean to be a structural engineering professional? What should we be doing to set ourselves up for success in this dynamic, rapidly-changing, and confusing environment? Here are a few thoughts for consideration.

- We are a profession first, and a business second. This simple statement establishes a priority for our activities which is very powerful. I don't know of any structural engineer who began his or her career with dreams of dealing with attorneys, bankers, accountants, and insurance agents. We are structural engineers because our passion is the work – the projects, the clients, and the people. I am sure that many will be skeptical of this simple statement, but if we remember to focus on the most fundamental aspects of our professional practice – the projects, the clients, and our people – the rest tends to fall into place. This is not a suggestion to ignore the business issues, but to put them in their proper place, which is in support of our professional practice activities.
- We need to promote a more holistic view of the structural engineering profession. There is a long list of competencies which must be tackled and mastered in order to be a professional structural engineer, and they are all related to each other. None of them should be dealt with in a vacuum, or in the absence of the consideration of the others. It all starts with technical competency, but the list also

needs to include (in no particular order) communication skills, negotiation skills, an understanding of professional and ethical responsibilities, project management skills, an understanding of risk management issues and the construction process, leadership skills, and more. Being an excellent engineer from a technical perspective is not enough – a professional structural engineer should be knowledgeable and proficient in a very broad array of competencies.

- We should embrace the obvious need to supplement the educational backgrounds which are provided by our schools and colleges. The importance of continuing education seems self-evident. It is a fact that our colleges and schools do not have the resources necessary to prepare our engineers for practice. This has been acknowledged formally by ASCE in the work done by the Body of Knowledge Committee. We must allocate some percentage of our resources to deal with the long list of competencies noted above, and help advance our profession by proactively providing continuing education and training for structural engineers of all ages and experience levels. This needs to happen within our respective professional practices, and it also needs to happen with assistance from the various organizations that support the structural engineering profession.
- We should take more direct control over the future of our profession. Structural engineers have a unique leadership opportunity, given our position in this dynamic design/construction environment. We should embrace this opportunity, and use it to better our own profession and the larger design/

construction industry. We should generally embrace the concept of always doing more on our projects. It appears that many of our design colleagues are becoming increasingly risk-averse, and are in swift retreat. It seems that we can benefit ourselves and our profession by understanding the environment in which we operate, move forward in a positive way to solve problems, and take on tasks which others are unwilling or unable to undertake.

These are big-picture thoughts, and clearly they need to be fleshed-out and made real within the context of the ongoing constraints and demands which we all currently face. But we should engage in this discussion regarding who we are, and what we want to be as professional structural engineers. If we do not do so, we will abdicate the opportunity to shape our future, and others will determine that for us. ■

