



What is the Value of Your Idea?

By John Dal Pino, S.E.

What is the value of your idea? No, not what is the value of your ideas to people in society in terms of the benefits they enjoy by safely crossing the river, or riding out the storm protected in the building you designed, but what is the monetary value of your ideas to your client? Put another way, how much profit do you think should accrue to you and your firm as a result of your dedication, creativity and hard work from a business relationship with another party who will rightfully exploit your ideas to the fullest extent possible for their own benefit? I know many engineers who are very uncomfortable discussing profit, thinking it to be unseemly and frankly not something “professionals” should openly discuss or be concerned with. Right? Are you one of them?

Despite what many professionals might like the state of the business world to be, profit is an absolute necessity to maintain a healthy and thriving business. Healthy firms need investment capital for new equipment and infrastructure, monies to compensate investors, and capital for ownership transitions and finally, the inevitable, retirement. But even if you view business from a more socialistic, egalitarian perch, despite voluminous theory to the contrary, history has shown that profit from success is necessary.

So when there is money to be made, it is incumbent on engineers to make as much money as possible to feed the many entities hungry for profit within our firms. Of course, we have our professional reputations to maintain, but one can suggest that engineers often argue against themselves in negotiations. Rather than stake out a position that will ultimately lead them to a fee, scope and terms “in the middle” of possible outcomes, they start much too close to their desired end point and then spend most of the negotiation on their own side of the field, rather than near the opponents end zone, to use a football analogy.

Engineers have long wished to charge their clients for the *value* that they believe their services have created for the client. Except for a few engineers, who have exceptional knowledge, practice in niche markets, or possess special skills or use proprietary technologies, turning such desires into a sustainable reality

in a competitive environment has been elusive, much like the search for the holy-grail or the fountain of youth.

Traditional cost-based methods of compensation, such as *lump-sum* (based on a percentage of construction cost or a percentage of the total A/E fee) or *hourly rate for a fixed number of hours* (using client-approved overhead and profit), just don't offer much opportunity to capture some of the value up for grabs. These methods have evolved from the common understanding by purchasers of engineering services (some might say a common misunderstanding, reinforced by the actions of engineers themselves) that all engineers are equally competent technically, have the same educational backgrounds and experience, and provide the same services in following the building code. The value of the end product to the owner or user is rarely if ever part of the fee discussion or negotiation. In fact it is probably very difficult for the engineer to determine the true “value” of the services provided to the client, and even if the value is known, it would be difficult to use in establishing value-based compensation in a competitive environment, since market forces drive prices lower. Engineers are not unique in the situation in which they find themselves. Many service providers in similarly competitive industries (doctors, lawyers, plumbers, auto mechanics to name just a few), where the buyers of services have good access to information regarding the cost of doing business and can shop around before buying, are faced with the same situation.

So, to borrow a phrase, what is to be done?

Engineers need to consider re-designing their businesses with the goal of identifying and providing value to the customer in terms that the customer understands, priced using an incentive-based compensation scheme, in conjunction with a competitive lump sum fee for basic services.

Of course, basic engineering services, yielding drawings and specifications and priced using common industry practices, will always exist. However some engineering services can have a very significant effect on the client's planning and investment decisions, and thus are of extreme value. It is critical that the engineer have a strong understanding of the clients business to quickly zero in on the most important value added services contained in

his proposal. The key is to recognize these services early on, and then take care not to “give away” these services by including them as a normal part of basic project services priced using the traditional compensation methods. Not to diminish the importance of coordinated and complete construction documents based on excellent engineering, but the greatest influence that an engineer can have on the ultimate success of a project often occurs at the earliest stages of planning, when the broadest decisions having the most impact are made, and during construction, when the contractor is “on the clock.”

Examples of where structural engineers can significantly contribute to the success of a project in the pre-design phase are:

- Building site location, orientation and massing
- Simplification of construction methods yielding reduced construction schedules
- Foundation systems, particularly on difficult sites
- System selection and constructability, resulting in more efficient use of materials
- Initial costs versus long-term costs
- Ease of repair after catastrophic events
- Interpretation of codes, standards and regulations
- Setting of the design schedule

Opportunities once the design process is complete include:

- Time through plan review
- Avoidance of delays in the construction schedule
- Minimizing the cost of change orders
- Minimizing the number of RFIs during construction
- Involvement in construction means and methods

In this incentive-based arrangement, the engineer would be rewarded for superior advice and counsel, innovation, schedule control, and construction cost control, all of which create value for the client. It will not be for every project or client, and the engineer will not receive any additional compensation unless he identifies and negotiates such work in his proposal and is able to effectively communicate why this compensation is in the interests of both the engineer and the owner. The engineer

will need to approach the client with a different mind-set, starting first with a discussion of the scope of value, well in advance of a scope of work, if such a scope is required at all.

In each service area targeted for incentive compensation, a benchmark target for a “typical job” would need to be established before the start of the project, with incentive-based compensation linked to the savings or value achieved in each area. A very aggressive engineer with a greater appetite and tolerance for risk might be willing to create a deduct amount for targets not met, and a potential larger add amount for targets met in excess.

The success of this approach will depend on finding the right clients (typically experienced and knowledgeable ones) that understand that they only get so much from the market price of basic services and that there must be ways to do better. Of course the engineer will need to do a good job of marketing and effective communication too, with facts correlated to metrics that the owner understands to back up their argument. Other team members, including the architect, may need to join in the effort, since it may be difficult to incentive-price services to the owner without a team approach. The key

is to develop a continuous dialogue between engineer and client that focuses on issues and results and culminates in an arrangement or framework for compensation focusing on win-win results, rather than a dialogue that always returns to a detailed examination of work scope, hours, hourly rates, overhead costs, etc.

Some engineers have wrongly assumed that value-based compensation is nothing more than charging a higher lump sum fee for basic services under certain conditions or situations. Perhaps they suspect that the client is not in a position to be too price sensitive, or has few other options. Some engineers also think that due to their perceived technical competence alone, or perhaps due to their “reputation” in the engineering community, they should be able to charge a value-based fee because the buildings they design are better buildings, without facts to back up the claim. These engineers are correct in that the ability to extract more fee on these bases is part of value-based compensation, but is actually only a very small part, with a limited upside and a potentially significant downside, if a valued client suspects they are being taken advantage of. In the long run, the market will adjust and eliminate such increased fees. The

best applications of value-based compensation lie elsewhere and create potential win-win situations for clients and engineers alike.

Perhaps the most valuable thing we can do for our profession is to start a serious dialogue about value-based compensation, what it means and doesn't mean, and how to effectively achieve it so that a paradigm shift for the industry can begin. The Council of American Structural Engineers (CASE) is the premiere organization for promoting excellence in structural engineering business practices and risk management, and CASE member firms volunteer their time, experience, and expertise to develop guidelines, tools and publications to assist our profession in improving business practices. If you desire to improve the structural engineering profession and are interested in contributing to the advancement of your profession, contact CASE, an ACEC Coalition. ■

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