

EDITORIAL

What it really takes to be an effective consultant



Mark Zweig

that make for a successful consultant are pretty much the same across the board.

I have been doing this stuff for 31 years now— both inside consulting firms and as a consultant to consulting firms. Here are some of the characteristics of an effective consultant:

■ **Knowledge.** Consulting starts with knowing something your clients don't know. That means knowledge about your discipline, for sure. But it really needs to be more than that. Broad, wide-ranging knowledge of the field you work in, of your industry, and of current happenings in the world are all critical to your credibility and success.

■ **Perspective.** You need perspective that comes from experience. No one will hire a consultant who is "perspectiveless." They are hiring you because you have experience they don't have themselves. They want to benefit from your perspective.

■ **A point of view.** There's a big difference in point of view *vs.* perspective. You can have perspective without point of view. A point of view means you can take a stand. You have an opinion— an informed opinion— and aren't afraid to state it.

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Mark Zweig draws on his 31 years of experience to offer some insight on the desired characteristics.

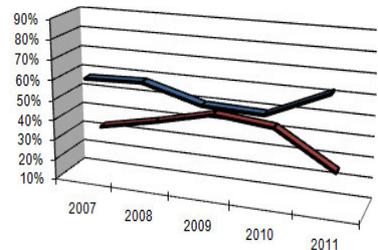
What does it really take to be an effective consultant? This is a question I am constantly being asked as well as asking myself.

We are all in the consulting business. Whether it is architecture, engineering, environmental services or even management consulting, the attributes

We are all in the consulting business. Whether it is architecture, engineering, environmental services or even management consulting, the attributes that make for a successful consultant are pretty much the same across the board.

TRENDLINES

Taking the cut



If necessary for their firm's survival, principals are increasingly willing to take a pay cut first before passing one onto their staff. According to the 2011 *Principals, Partners, & Owners Survey*, the percentage of principals who say they would take a pay cut first (blue line) reached a six-year high of 66%, having declined to 53% last year.

Meanwhile, the percentage of principals who say that principals and staff should both take a pay cut (red line) has reached a 10-year low of 24%, dropping from 42% in 2010. — Margot Suydam, Survey Manager

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■ **Confidence.** Confidence is what makes it all work. Without confidence, you could have knowledge, perspective, and point of view, but not be able to share it with anyone. All that is all useless without confidence!

■ **Intelligence.** If you know anything about intelligence (I was once married to a psychologist who did IQ testing), you will know that there are many elements to “I” (depending on the test you are using). But let’s face it, without some basic smarts, people cannot learn. That is unacceptable for a consultant! They will also tend to be argumentative and unreasonable, two very big problems if you want to be a success as a consultant!

■ **Political savvy.** To be a successful consultant, you have to be able to quickly assess the political landscape and know who you really have to please. This political savvy is needed not just for how to win the job— but most importantly, how to end up with a successful project and a client who will rehire you.

■ **Communication skills.** No amount of knowledge, perspective, confidence or political savvy can make up for a lack of communication skills if you want to be ultimately successful. You have to be able to get your thinking across. The good news is communication skills CAN be taught.

■ **Integrity.** Integrity to me means that you do the right thing. It’s not always easy— and it may even cost you a project or a client— but you need to have it.

How do your top consulting folks stack up on these requirements? If not so great, some (not all) weaknesses may be addressed by training.

In other cases, you may just need to change horses. In the immortal words of my first boss in the professional world, the late Mike Latas, “You can lead a horse to water, but first you have to have a horse.” ▀▀

MARK ZWEIG is the founder and CEO of ZweigWhite. Contact him with questions or comments at mzweig@zweigwhite.com.

A/E BUSINESS NEWS

PORTUGUESE ARCHITECT WINS

PRITZKER: Portuguese architect Eduardo Souto de Moura, whose buildings are praised for their careful use of natural materials and their unexpected dashes of color, has won the 2011 Pritzker Architecture Prize, the prize’s jury announced.

Souto de Moura, 58, joins Frank Gehry, Tadao Ando, and Renzo Piano in receiving the top honor in the field.

He is recognized for the homes, hotels, museums, sports facilities, and other structures he has designed, predominantly in Portugal but also in several other European countries.

“Eduardo Souto de Moura’s architecture is not obvious, frivolous or picturesque. It is imbued with intelligence and seriousness,” the Pritzker jurors wrote in their citation. “His work requires an intense encounter, not a quick glance. And like poetry, it is able to communicate emotionally to those who take the time to listen.”

Among his best-known buildings are the soccer stadium in Braga, Portugal, where European soccer teams fought for the championship in 2004; and the 20-story Burgo Tower office block in his native city of Porto, built in 2007. Souto de Moura has also built family homes, cinemas, shopping centers and hotels and since setting up his own office in 1980.

Jurors characterized the stadium as “muscular, monumental and very much at home within its powerful landscape.”

AGC ELECTS WOMAN PRESIDENT:

Kristine Young, the chief executive officer of Des Moines, Iowa-based Miller the Driller, has been sworn in as the first female president of the Associated General Contractors of America.

As president, Young will oversee AGC’s efforts to advocate for measures to boost demand for construction activity by enacting pro-growth tax and trade policies and making much-needed investments to the nation’s aging infrastructure, the organization announced.

In addition to Young, AGC inaugurated Joseph Jarboe, senior vice president of Clark Construction Group, Bethesda, Maryland, as senior vice president.

Paul Diederich, president of Industrial Builders, Inc., West Fargo, North Dakota, is AGC’s new vice president, and Howard Pebley, president of McAllen Construction, Inc., McAllen, Texas, is the treasurer.

RESOURCES

WIN GOVERNMENT WORK: This new 2011 edition of ZweigWhite’s best selling *Guide to Winning Federal Government Contracts* book will take you through the process of identifying opportunities, developing strategies, and preparing effective proposals, as a prime, a subcontractor, or a subconsultant.

Written and revised by David Alexander, who has more than 25 years of experience in providing consulting services to the federal government, this publication navigates you through the complexity of the market and provides you with straightforward, easy-to-understand information and recommendations that you can use to help your firm win federal contracts.

According to a November 2010 ZweigWhite survey of 68 firm leaders, government and municipal work ranked as the number two hottest market for 2011. Unfortunately, more money and more projects mean more competition between firms for government contracts.

Guide to Winning Federal Government Contracts provides the answer on how to make sense of the federal government market and differentiate yourself from the competition to win federal government contracts.

For more information or to buy a copy, call 800-466-6275 or log on to www.zweigwhite.com/zw-1073.aspx.



The voice of reason for A/E/P, and environmental consulting firms.

320 Rollston Avenue, Suite 102
Fayetteville, AR 72701

Mark Zweig | Publisher
mzweig@zweigwhite.com

João Ferreira | Managing Editor
jferreira@zweigwhite.com

Julie Kyle | Editor
jkyle@zweigwhite.com

Tel: 800-466-6275
Fax: 508-653-6522
E-mail: info@zweigwhite.com
Online: www.thezweigletter.com
Twitter: twitter.com/zweigwhite
Blog: zweigwhite.blogspot.com

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MARKETPLACE

Fight commoditization by enhancing value

The economy, technology, and outsourcing are making architects and engineers leery about their worth.

JOÃO FERREIRA
Managing Editor

Many services in the A/E/P and environmental consulting industry's food chain are becoming highly commoditized.

The phenomenon happens even within the industry, with builders and architects often treating certain types of engineering services as merchandise. In most cases, economic pressures are exacerbating the problem—the low bid always wins.

Technology is perhaps the biggest enabler of commoditization—services that once required a specialized hand can be done using a piece of software by almost anybody, anywhere.



Gregory DiFrank,
President, River
Consulting, LLC.

Gregory DiFrank, president of **River Consulting, LLC** (Columbus, OH), a 160-person consulting engineering firm, says that for engineering specifically, while parts of the industry already are commoditized, others will never be.

"I view the engineering industry as a continuum of services, an 'engineering food chain' if you will, with lower value services at one end and higher val-

ue services at the other," he says. "At the low end, we have basic CAD drafting, manpower augmentation, single discipline detail design, and other services that have been off-shored for years. And they have been off-shored for precisely the reason that you mention, they can be neatly packaged and shipped off to the lowest bidder with minimal or at least manageable effect on deliverable product."

DIFFERENT VIEWS. Several firm leaders report that commoditization is an increasing concern in their business operations, for several reasons—not the least of them complacency.



Joshua Carney,
President, Carney
Engineering
Group.

"Structural engineering has become a commodity in many people's minds, largely through the actions of our own profession," says Joshua Carney, president of **Carney Engineering Group** (York, PA), a nine-person structural engineering firm. "Through delegating of responsibility to others, and unwillingness to be accountable for the quality of the work we do, the structural engineering profession has hit rock bottom. The level of expectation is so low that anyone, including outsourced and international low-cost firms, can provide essentially the same finished product."

Stuart Jacobson, president of **Stuart K. Jacobson & Associates, Ltd.**

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"The general public, as well as many architects and developers, are looking to buy engineering services based upon low 'bid' alone. Except when there are two low 'bids' that are close to one another, they will consider past relationships and qualifications secondarily."

GUEST VIEW

Create a niche, not a product

Technology has made many aspects of the design industry increasingly banal, but you don't have to just stand there.



David
LaVelle

Many aspects of the design profession are more commoditized now than they were two years ago. I imagine five years from now, some elements that we think of as specialty cutting-edge work now will become normal, everyday parts of most design practitioners' business. However, this is nothing new. Thirty-some years ago, when I first entered the civil engineering profession, many aspects of the work were already commoditized. Doing basic site design work has been a commodity for many, many years. Almost all licensed practitioners (and some unlicensed ones!) are able to do the basic work of site civil design. Add to that the increasing economy and efficiency of laptop and desktop computers. They have made drawing production much easier, and have simplified calculations that used to be laborious, time consuming, and confusing. It's a natural phenomenon that as technology is applied to more and more aspects of our design work, that those elements will become increasingly commoditized, and of less value to our clients because they can get them done anywhere.

However, the good news for us all as designers is that our design world is changing. In an increasingly built-out environment,

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COMMODITIZATION, from page 3
(Northbrook, IL), a consulting structural and forensic engineering firm, blames commoditization on the economy.

“Our experience of the past few years is that the general public, as well as many architects and developers, are looking to buy engineering services based upon low ‘bid’ alone. Except when there are two low ‘bids’ that are close to one another, they will consider past relationships and qualifications secondarily,” he says. “Being a very slow time in the construction industry, engineers and architects, as well as contractors, are shopping the bottom line on almost every project.”

Korey Walker, CEO of **Epic Engineering** (Heber City, UT), a 68-person engineering, surveying, planning, and design firm, is feeling the price pressure that results from the low bid syndrome.

“I am extremely concerned about this issue,” he says. “I am finding that we are forced to cut pricing and package services to get a look from a client.”

Commoditization isn’t only being felt among engineering firms. Gary Petri, president of **Slaterpaul Architects Inc.** (Denver, CO), a 35-person full-service architecture firm, says architecture is becoming nothing more than a product in some market segments.

“Take K-12 school design for instance. Economic pressures are forcing school

design into tighter and tighter schedules and design fees. Some school districts are looking for good design, others just need to get the job done and do not allow for the time to study alternatives or explore better ideas. Collaboration with teachers and education leaders is often limited, due to time and financial constraints.

“These limitations often result in generic designs and the devaluing of specialized expertise,” he says. “The selection process does not often distinguish between highly skilled firms and firms that are perceived as exciting or efficient or for a reason other than expertise. Design/build firms with in-house architectural staff are often successful selling a ‘package’ that may meet schedule and cost constraints but doesn’t deliver a quality project that will stand the test of time. All of these factors are causing school design to become a commodity.”

SOLUTION IS DIFFERENTIATION.

“So how do you fight commoditization at the lower levels of the food chain? You can start with service and value,” DiFrank says. “By service I mean client service, focusing on truly knowing and ‘loving’ your clients. There is no way that a provider can be as responsive from across the globe as someone can who is here, present, in the same time zone, awake, aware, and engaged with their clients, really listening to what

their clients say, and adapting their deliverables and project approach to fit their clients’ specific organization and culture.”

Carney, who painted a dire picture above, says his firm has chosen to avoid becoming a victim of commoditization by enhancing value, rather than playing to low expectations.

“We have been successful taking the opposite approach, taking on more responsibility by providing structural fabrication drawings alongside our contract documents, and focusing on providing more creative and responsive solutions,” he says. “We also focus on selling not just to the architect, who has an incentive to reduce our fees, but also to the builders, who generally can save overall project expense by allowing us to spend more time developing more cost-effective solutions. We take on more responsibility on projects, but gain the control along with it to manage our risks, and make it difficult for our clients to find an equal level of value anywhere else.

“Our ability to obtain higher fees is directly related to the value we bring to the table.”

DiFrank seconds Carney’s thoughts.

“It remains a dog-eat-dog market in the A/E world, and it will for a good time to come. Only those who are willing to really dig in and commit to knowing their clients are going to grow and prosper,” he says. ▀▀

LAVELLE, from page 3

retrofit projects are getting more and more complicated. Regulations are becoming more difficult for our clients to understand, and they need our help to comply. Sustainability and green design are creeping into our vocabulary, and are expected on most projects. As these and other new cutting edge nuances enter our world, we have continuing new sources to differentiate ourselves from our competitors.

Often, as designers, we complain to each other about the fee erosion that happens because of our work being commoditized. However, the stark reality is that commodity work IS worth less, and we should expect to get paid less for it. The antidote to

commodity pressure is to stay current on the evolving technology: water treatment, road diets, “walkable” communities, mixed-use development. By finding important niches that your firm is good at, you can differentiate yourself from your competitors. If you’re sufficiently good at that, you can also get paid a premium for many portions of the work that in all reality are commodities. Be prepared, however, to sell your client on the value of your firm’s particular expertise. In some cases, it can be geographical. Having an extremely high level of understanding of the local planning commission and city politics can be a huge advantage in the development world. Likewise, an incredibly keen knowledge of your local department of transportation will

allow you to “talk the talk” and “walk the walk” when dealing with high-level approvals of complicated projects. Having the ability to understand the complexities of construction staging for a highway interchange retrofit in a highly urbanized area, will completely blow away the competition. The bottom line is this: Knowledge that creates special value in the eyes of your client will never become a commodity. It’s a little different in every case and it changes over time. It is our job as consultants to understand what causes our clients pain, and to make sure our work takes that pain away. That’s what makes this business so much fun, and so gosh darn exasperating! Embrace it. Enjoy it. Understand it. And use it to your advantage. If you don’t, someone else will! ▀▀

Knowledge that creates special value in the eyes of your client will never become a commodity.

DAVID LAVELLE is the president/CEO of **BKF Engineers** (Redwood City, CA). Contact him at DLaVelle@BKF.com.

FEDERAL

Transportation stalemate hurts industry

Congress' inability to pass legislation puts jobs in jeopardy.

By JULIE KYLE
Editor

As partisan bickering and posturing continues on Capitol Hill, the failure to pass overdue legislation that provides multi-year federal aid to state highway and transit programs jeopardizes 3,383,000 full-time jobs across the nation, new research from the American Road and Transportation Builders Association reveals.

Without changes to current policy, the revenues raised by all levels of government for capital investment will only be about one-third (\$66.6 billion) of the \$200 billion the U.S. Department of Transportation (USDOT) believes necessary to maintain and improve the nation's highways and transit systems, ARTBA says.

The House voted in March to extend the nation's surface transportation law, as both parties in Congress and the White House wrestle over the direction of federal transportation policy. An agreement is seen as unlikely before the November election.

"This has implications in that there will be less competition in our industry, which in the future means fewer providers of goods and services, which means there would be potentially less innovation, and higher prices," said William Millar, American Public Transportation Association president, in a teleconference hosted by APTA.

According to a poll of APTA members, 84% said continued delay would result in reduction of revenue related to their public transportation business.

Additionally, 49% said their companies have or will implement hiring freezes, and 50% will lay off employees.

Sam Schwartz, CEO and president of **Sam Schwartz Engineering** (New York), a 75-person engineering firm, says, "The uncertainty about the funding has had a dramatic effect on how we view the future and affects our budgeting, marketing, and hiring.

"It has lowered our expectation of



Sam Schwartz,
CEO and
President,
Sam Schwartz
Engineering.

work from the public sector, so we are now spending more of our energy on private sector clients emerging from the recession," he says. "There is a heartbeat in developers, institutions and utilities. We think 2012-13 will be fairly strong. Maybe by then the governments will get their acts together."

Greg Kelly, president of America's Transportation, a company within **Parsons Brinckerhoff** (New York, NY), a 13,000-person full-service architecture and engineering firm, says the lack of long-term surface transportation funding has not caused major reductions in revenue for PB.

"Truth be told, 2010 was a very good year for us, and 2011 is shaping up in a very strong way, also," he says. "There are parts across the country that have shown tremendous growth, and we've tried to focus efforts and resources there."

However, if Congress delays on passing meaningful legislation soon, Kelly warns, "it will become a concern."

If legislation passes, the firm expects growth.

"Historically, after the passage of each federal (surface transportation funding) bill, we've seen an increase in business across the board. After the past two or three authorizations that together span about 20 years' time, we've seen an uptick each time," Kelly says.

LONG TIME COMING. The last highway and transit law (SAFETEA-LU) expired in October 2009. Federal aid to the states has been sustained ever since through a series of short-term extensions. The uncertainty of future funding levels is causing state transportation departments to slow down or delay projects and in turn impacting hiring decisions and equipment purchases by transportation design and construction firms, according to the American Association of State Highway and Transportation Officials.

DRI, a company that produces digital communications technology used

by public transit systems around the globe, has seen a 20% decrease in revenue since the last program expired.

"We're a relatively small company, but when that impact is magnified over and over by hundreds of small companies across the nation, the impact is significant in terms of total employment. We have not replaced attrition, and we have a hold on hiring in the U.S.," said David Turney, DRI's chairman and CEO, in the APTA teleconference.

"We can't depend on the U.S. marketplace. Our business is driven by growth potential. For long-term investment, our business is increasingly turning to international markets," sending more jobs abroad.

"The growth opportunity far and overwhelmingly exceeds what's available in the U.S.," Turney said.

Jeffrey Wharton, president of IMPulse NC LLC, the leading U.S. manufacturer of overhead electrical contact systems used in light rail networks, said his company saw steady and significant growth from 2005 to 2009, before SAFETEA-LU expired.

"SAFETEA-LU provided a growth and planning mechanism, due to renewed interest and focus on public transportation as part of the American Reinvestment and Recovery Act of 2009 and the Transit Investments in Greenhouse Gas and Energy Reduction program.

"However, today the picture is much different. Most '09 projects and investments are complete. Due to lack of long-term funding and existing funding levels being cut, many of my customers, public transit agencies, are reducing routes, cutting service, increasing fares, and making very few new purchases for repairs or needed system expansions."

Lack of long-term funding means "job reductions and layoffs here and in our sub-supplier base throughout the U.S. that depend on transit industry. We've seen a significant reduction in orders for 2011. One IMPulse manufacturing contract affects thousands of U.S. jobs.

"My business is also driven by growth potential, which has forced us to look outside of the U.S. to international markets for greater growth opportunities." ▀▀

FEEDBACK

They are revitalizing their firm

A member responds to a recent Mark Zweig editorial.

In his editorial titled “Revitalization of the firm,” published in the March 14 issue of *The Zweig Letter*, Mark Zweig offered six ideas to get things rolling again. Paul Jewel, COO and principal planner at **Nelson\Nygaard Consulting Associates** (San Francisco, CA), a 60-person transportation planning firm, offered six comments:



Paul Jewel, COO and Principal Planner, Nelson\Nygaard Consulting Associates.

Mark,

I love it when I read your column and can immediately highlight things that we’ve done. It makes me feel like “yes we are headed in the right direction.” For example:

1) Come out with something new. We are just about to release a new product called NN Transit Tools. We are packaging many of the basic tools we’ve developed for our transit plans and will be offering them to our clients as sort of a “value added” item following the completion of a project.

2) Hire some new, experienced people. We just hired a principal transit planner “young gun” from one of our competitors. Not only is he helping to reenergize our practice but bringing him on board effectively knocked that competitor “out of the ring.”

3) Hire some smart, inexperienced people. We seem to hire about two or three smart young kids every year. They really help stir the pot and keep us “old folks” on our toes.

4) Move. We literally just finished moving our San Francisco HQ into a new space. Everybody is back together on one floor and that means better collaboration. And, we’ve embraced the concept of creating “touchdown spaces” around our office. People can take their pick of creative spaces where they can sit solo or work with one or two people in a comfortable environment

away from their workstation. This new space is already paying dividends and has really changed our vibe. Must be the good Feng Shui. And, we moved our Boston office into new space in February. It wasn’t planned, but an opportunity came up to take a larger space on another floor. Our staff had been jammed together in the old space like the crew on a U-Boat. Moving unexpectedly did hurt the cash flow a bit but it was well worth the short-term pain because it has already helped office morale.

5) Discard archaic systems and processes. In May we are rolling out a new accounting software package that will really help our project managers feel like they have more day-to-day control over their project budgets.

6) Share successes and celebrate all victories. Our daily e-letter, called N4, lists new opportunities, victories, losses, and “kudos from clients.”

Mark Zweig responds:

“We just hired a principal transit planner ‘young gun’ from one of our competitors. Not only is he helping to reenergize our practice but bringing him on board effectively knocked that competitor ‘out of the ring.’”

MERGERS & ACQUISITIONS SEMINAR: In a competitive business environment that stresses growth, the reality is that all firm leaders will at some point face the issue of whether they are buyers or sellers. The time to start thinking about the future of your firm is NOW.

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Wow— Nice e-mail and it sounds like a lot of good stuff you are doing, Paul! Not surprised that it feels good. These things will have to make you more successful.

Thanks so much for writing and keep it up!

Mark. ▲▲

In our current economy,
uncertainty is a constant reality.

But you shouldn't be uncertain about how
your firm stacks up against your competitors
— and the industry at large.



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PM PERSPECTIVES

Boulevard of broken teams

What comes to mind when you hear the word “team”?

This industry is really big on teams, isn't it? We have internal project teams, subconsultant teams, and even proposal teams. There is also the larger team that includes the client and stakeholders we work with on projects, and everyone always seems to be on the hunt for a good “teaming” arrangement. If you are on a team, it signifies you're part of a mission, one of the in-crowd. A team is a good place to be because it's more fun than working alone.

When we propose a team to a client, we are really showing off our strength, our ability to do more than we could do by ourselves, and the fact that we're wise in choosing great partners. When we put together our internal teams, we really are saying the same thing—just on a smaller scale.

If you're into acronyms, you've probably heard the one associated with the word “team”—*Together Everyone Achieves More*. When teams are assembled in a smart way, have a purpose, and leverage the skills and strengths of all the members, it really is remarkable what they can accomplish. In that case, the acronym is spot on.

When I worked in Germany, I learned another acronym for “team”—*Toll Ein Andere Macht*—which, when loosely translated means, “Great! There are enough people here that I can hide and let the others do all the work!” That's pretty funny coming from a nation typically associated with precision engineering and the relentless pursuit of excellence. But alas, the scourge of being part of a crummy team is an international reality.

In an architecture, engineering,



Christine Brack

planning, or environmental consulting firm, there are very few things worse than being on a team where the German acronym applies. Even bad coffee in the office kitchen is better because at least you can bring in your own.

If you are on a bad team or have at least one bad player in your midst, there is likely little chance of you being able to do anything about it other than sweat it out to the finish. And what waits you when that is done? Another project with the same bum player or players.

So, what's worse? Being a leader in the firm that allows this to continue—that's what's worse. Unfortunately, most folks in leadership know there are bad team players in the crowd and they do little about it. There are all sorts of fabricated reasons why this issue isn't addressed and we can debunk a few of them right here:

■ **No one will notice the slacker.**

People are so busy doing project work; perhaps no one will pick up on the fact that Jim isn't pulling his weight. Your employees aren't dumb, so it's a guarantee they can identify the weak link on the team. They will approach every project with disdain, knowing they have to work with the slacker, and will be especially crushed when bonuses are equally distributed. One bad personality will ruin the fun of the project for anyone else.

■ **It's so tough to hire.** This is true—it will be tough to rehire those who left because you didn't replace the poor performer or employee with the negative attitude. The damage this person creates in terms of direct and indirect costs is so extensive you simply can't afford to keep them. Getting rid of these people is a very good thing and will boost the morale of the team, rather than kill it.

■ **He's difficult to deal with but he's really good technically.** This

PRINCIPALS, PARTNERS & OWNERS SURVEY: ZweigWhite's 2011 *Principals, Partners & Owners Survey* is an extensive report that covers ownership, stock appreciation, buy/sell agreements, non-compete agreements, voting rights, roles, responsibilities, perks, compensation, and more.

If you are a firm leader, you can't miss this report.

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industry abides too often by the scarcity principle—that folks with strong technical skills are impossible to find except by sheer luck. We think they are irreplaceable and consequently allow them to behave any way they like. We're afraid they will leave and take all the technical knowledge with them. People skills, good manners, patience, and a kind personality are important ingredients to build a strong team. Crabbiness and arrogance will do the exact opposite.

There is often not enough concern about the teams we put together internally. So long as the bad apple isn't put in front of the client, we just deal with it. Consider, though, the folks who actually have to work with and around these types of employees—they are tired of dealing with it. Anything is tolerable in the short term but eventually project quality slips, the teams are perpetually unhappy, and soon many lose respect for the leader who won't do anything about it. Teams are important entities—they can achieve great things or provide a place to sit back and relax while others work hard at their craft. What kind of teams do you have? ▲▲

CHRISTINE BRACK, PMP, is a principal with ZweigWhite who specializes in business planning and project management best practices. Contact her at cbrack@zweigwhite.com.

When I worked in Germany, I learned another acronym for “team”—*Toll Ein Andere Macht*—which, when loosely translated means, “Great! There are enough people here that I can hide and let the others do all the work!”

GUEST SPEAKER

Green: Under promise and over deliver

Avoid unhappy clients and potential lawsuits by following some simple steps.

As design and construction teams work to achieve increasingly higher LEED ratings, they are pushing the envelope of energy efficiency with new uses for recycled and renewable materials within the building. Unfortunately, many projects have fallen short of the team's original intentions.

The most significant concern for a finished building is the difference between the modeled and the actual energy consumption. Energy modelers are pressured by the design and construction teams to demonstrate significant energy savings over a code baseline building; these large energy savings will help earn a higher LEED rating for the finished project. However, when owners see that first year energy consumption costs are substantially higher than the model predicted, they can claim they have been misled into making inappropriate investments that did not result in the payback they expected.

Unfortunately, this is a simple mix-up that can be avoided very easily. Here are some tips to minimize the potential for unhappy clients or litigations for not delivering the energy goals that were promised:

■ Discuss model requirements—The U.S. Green Building Council and the American Society of Heating, Refrigerating and Air-Conditioning Engineers have specific requirements for modeling buildings to determine the energy efficiency of the proposed design. These guidelines are meant to provide an even playing field between different projects, even though some may have more specific requirements.



Steve Straus

ASHRAE requires plug loads be modeled based on an operating schedule that mimics a traditional work day, typically 7 a.m. to 6 p.m. for an office building. In reality, tenants who work late or leave their computers running all night create

additional energy costs that fall outside of the schedule. Clients should be informed that if numerous electronics are left on after everyone has gone home, they can anticipate higher energy consumption than the energy model predicted.

To avoid this, **Glumac** recommends providing at least four energy model results for the owner: a baseline and a building model for the project designed to meet USGBC or ASHRAE 90.1 requirements, as well as separate models that use an operating schedule that you and owner both agree upon. Perhaps it is decided that some equipment will be left on at night, or that a small percentage of employees will sneak space heaters into their offices. Make sure everyone is on the same page as to what the hours of operation are.

■ Historical energy database—Provide your client with a historical database of operating costs of similar projects. You can identify many comparable projects from the U.S. Environmental Protection Agency's web site on ENERGY STAR buildings at www.energystar.gov/index.cfm?c=green_buildings.green_buildings_index. By showing your client a comparison of code-conforming buildings and the actual data of energy efficient buildings, you can begin to establish the groundwork for what the "real numbers" will be for the project.

■ Accurate plug loads—Plug loads vary by occupancy, due to the number of computers within the work space. While most office tenants have a plug load of 0.75-1.0 watts per square foot, the industry is beginning to see much higher loads of 2-3 watts per square foot, especially in the software engineering market. Owners are attempting to reduce real estate costs by increasing the occupancy density by almost 50%, trying to fit many more people into a space than they did just five years ago. I recommend measuring the energy consumption per workstation, multiplied by the number of workstations in the space. Rules of

thumb used to calculate the number of watts per square foot don't account for increased density, creating an underestimation that can really drive up energy costs.

■ Don't be overly optimistic—Energy specialists may be quick to believe manufacturers' results and promises on the purported energy savings of a particular product. This data might be based on a "best case scenario" with occupancy schedules and density that differ greatly from your building project. It is important to measure the actual efficiencies from previous installations, and to provide realistic assumptions in the analysis.

■ Document the assumptions—It's very important to document the assumptions used to create your baseline energy models, and review them with the owner and design team to make sure the assumptions are reasonable. When differences occur between the requirements of various agencies, make sure these discrepancies are brought to the teams' attention so that everyone can move forward from the same point.

Since Glumac began commissioning projects, we've seen a trend where actual operating costs are 50- to 100% higher than those predicted by the energy specialist. The baseline energy models should project similar increased operating costs, which would accelerate the payback for these energy saving measures.

At Glumac, we track many of our clients' projects for several years after they have been completed. If the building's actual energy consumption doesn't match the theoretical, we identify what might have created these differences.

More often than not, a change in occupancy hours or building use is the cause. We recently evaluated a new college building where the actual energy usage was much higher than we initially estimated. We discovered that although our baseline model was created for 12 hours of operation, the university was operating the building 24 hours due to its increased popularity with the students. ▲▲

STEVEN STRAUS is president of **Glumac** (San Francisco, CA). Contact him at sstraus@glumac.com. LOUISA GAYLORD, communications director, is co-author.

DIVERSITY

Representation of women in A/E industry still lagging

Exposure is key for industry to promote itself better.

By JULIE KYLE
Editor

While women are becoming increasingly prominent in medicine, law and business, why are there still so few women architects and engineers?

A recent report by the American Association of University Women found that although women have made gains, stereotypes and cultural biases still impede their success in science, technology, engineering and math (the so-called STEM) fields.

There has been an exponential increase in the number of women in architecture and their professional recognition in the final decades of the 20th century, according to the American Institute of Architects (17% of its membership is now female).

Virginia Tanzmann, an architect with **Parsons Brinckerhoff** (New York, NY), a 13,000-person full-service architecture and engineering firm, is a long-standing member of the Association for Women Architects.

"When I went through the Syracuse University architecture program, our class had a steady 10% women for the entire six years. Dean (Mark) Robbins told me (recently) that more than 50% of the school is now women.

"Architecture may be the perfect profession— We get to be creative, technical, strategic, and people-focused every single day; and there is always something new to learn," Tanzmann says. "Despite my optimism, some women will face the old challenges of sexism, whether blatant or subtle. Even in the enlightened place where I work, I run into old attitudes, whether among men who are older or those with a different cultural background.

"Thirty years ago I wrote an outraged letter to a company that advertised its

blueprint machines with a bikini-clad model draped over the machine. Today, that wouldn't happen. Advertisers have figured out that it's better not to offend those with the money they want," Tanzmann says.

Carol Kartje, associate principal and senior vice president of **HKS** (Dallas, Texas), an 850-person architecture firm, says she has been fortunate in her career of almost 30 years not to have had many obstacles involving discrimination or bias.



Carol Kartje,
Associate
Principal and
Senior VP, HKS.

"Part of our job as female professionals is to raise consciousness. I don't believe we need to do that with a big stick. We need to do that through example and humor, reminding people in a quiet, non-humiliating way to be aware what words may embody beyond their intent," she says.

"As the voice of an experienced architect and interior designer, I expect my gender and the gender of my team members not even to be an issue. To be respected as a highly qualified professional, selected for opportunities for leadership on high profile projects, represent my company at interviews and with our clients, or be promoted; I expect this, not because we might need a woman in the mix, but because I am the professional specifically most uniquely qualified for the position," Kartje says.

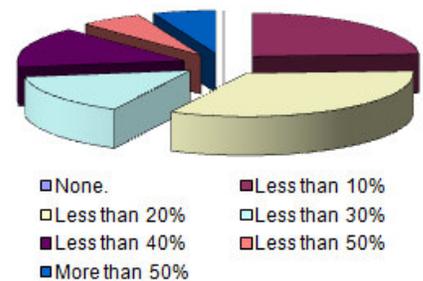
Forty-five percent of firms surveyed for this series of articles said that despite their best efforts, they don't see enough quality minority applicants. This could be because the A/E industry has not done a very good job of promoting itself, says Stephen Hinton, managing director of Hinton Human Capital, who has recruited for the A/E industry for

Survey reveals lack of participation

Women offer suggestions on how the industry can be more attractive to females.

The *Zweig Letter* conducted a short survey to determine the numbers of women working in A/E/P and environmental consulting firms. All who responded to the survey said women hold some form of professional position in their firms, although the majority of respondents, 31%, said women account for less than 20% of their professional positions.

WOMEN IN PROFESSIONAL POSITIONS



When asked how companies handled work-life balance and need for flexibility, 46% felt they provided a very flexible work environment, while 49% responded they work with individuals on their specific needs. Only 6% said their firms do not offer any flex time or alternative working conditions.

Below are some of the comments the 35 survey respondents left.

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WOMEN, from page 9

more than 13 years.

Popular media glamorizes some professions, but, Hinton asks, "When was the last time you saw a TV show or movie with a civil engineer as the main character?"

Hinton says he asked his niece, who is 12, if she would consider becoming an engineer. She responded, "Why would I want to drive trains?"

STEREOTYPES BEGIN EARLY. Girls' achievements and interest in math and science are shaped by the environment around them, says Karen Hewitt, a toy designer who advocates block play as a means to increase spatial understanding and mathematical skills basic to architecture and engineering.

"It's interesting when you start look-

ing at toy departments in stores, there are these strict divisions between boys' and girls' toys. For boys, they have trucks and action toys in blue, and for girls, they're making dolls and home-making things in pink." Hewitt determines the division only exists for marketing purposes. "But why would they do this? They're introducing the concept to children that says, "This is your gender, this is what you should be doing.' It's really regressive. Toys should be toys," she says.

Girls have traditionally been taught that girls are good at English and boys are good at science and math. "There are plenty of examples that illustrate that this is not scientifically true," Hewitt says.

Mattel would agree; the toymaker has given Barbie a new job as an architect. She will enter the Mattel's

2011 line of iconic dolls as part of their "I Can Be" series this fall.

PROFESSIONAL OUTREACH. Kartje feels the best way to expose more girls to design professions is through outreach.

"As individuals we can facilitate the exploration of the incredibly diverse opportunities in our profession through volunteering to be guest speakers in K-12 classes and at the university level, or inviting high school and college students to 'job shadow' us for a day, or just to tour our office for an hour.

"We can become involved in community work service projects where we design and build together, to share our time, talents and stories of what we do each day to inspire and be inspired by the next generation of architects, designers or engineers," Kartje says. ▀▄

SURVEY, from page 9

HOW COULD THE A/E INDUSTRY PROMOTE ITSELF BETTER TO WOMEN?

Equal pay would be a good start.

I am lucky to work for a firm that has female representation even at the board level. However, if you look around, you see lots of women in interiors, lots of women who are practicing architecture, but very few in lead architecture design roles. Few firms, if any, are willing to spend extra money in a down economy by investing in diversity programs. It's also interesting to note that Gen Y females feel quite differently about this issue as compared to "graying" females. They don't perceive any issues and feel the sky's the limit. Refreshing but naive. What will force change are clients who demand diversity at the table.

Work life balance is very important to women in this industry, especially when they are at the point of starting families or have families. Allowing work schedules with flexible start and end time and allowing time off in the middle of the day to attend school functions or get to doctor appointments, gives working mother opportunities to balance their home and work life. Firms should be thinking about the time they allow for maternity leave and not just sticking to what is allowed by law. Many of our moms are requesting to take four to five months off, or taking three full months

off and coming back slowly, starting at part time for a couple of months. Some of these part-time schedules include working three full days with two full days off, or working full time at four 10-hour days. This allows one extra day that day care does not have to be paid. It is not just the working moms that are seeking the balance. This is a balance that the Gen X and Y are demanding of their employers and I think that firms that don't see this coming are poised to lose some talent.

By showcasing the successes women in engineering have had, offering scholarships to women, noting the increase in the number of women at engineering companies compared to, say, 10 years ago, by promoting engineering at the middle school level, and by pointing out the future shortage of engineers in the United States, which should drive salaries up.

Pay more competitive wages for professionals in positions that are operational in nature (i.e., CFO, HR, Marketing). Being termed "overhead" is derogatory to those female professionals who are not architects or engineers. To promote itself better to those individuals who are interested in A/E disciplines, promote professional participation in activities that are related to the field.

I would recommend starting out by getting involved in the middle school and high school education programs.

In this way, the A/E industry could begin mentoring young girls and promoting itself before they have made decisions about their future at the college level. Many young women are not even aware of the opportunities available to them, so I believe education is key.

Job shadows for high school and college students considering a career in A/E. Develop a professional network for women in the industry. Train men on gender differences and similarities. Offer the same advancement opportunities for women. Create roundtable discussions with the women in your firm career advancement and opportunities— make sure leadership is present.

Established mentoring programs, strengthened college relations, promotion of women's programs in the industry.

I think that the main thing is getting women interested in the profession and involved before they get to college.

More aggressive recruiting targeting women (i.e. targeting sororities, establishing relationships with freshmen women and provide internships).

It would be great to see women spotlighted in more professional publications. Encourage articles written by females and from the female perspective... How they manage being on the road, handling work/home life balance. ▀▄

WORKPLACE

Finance roles evolving

In smaller firms they are becoming jacks of all trades; in others they advise management.

By JULIE KYLE
Editor

The role of finance director at A/E/P and environmental consulting firms continues to evolve as firms are met with new demands. Finance teams can no longer serve as mere number crunchers relegated to back-office operations, especially at small and mid-size firms. Economic pressures have shifted focus to the bottom line, and companies are now examining how finance can have a more powerful influence on strategy in an increasingly global marketplace.

We asked readers to describe the roles of financial managers, and how firms balance handling technical financial matters with developing strategy and direction for the future.

JACK OF ALL TRADES. Xochitl Medina, controller at **Bain Medina Bain, Inc.** (San Antonio, TX), a 59-person consulting engineering firm, says times have changed, and finance professionals are being called to become more versatile.

“In A/E firms, especially small firms like ours, each of our professionals have to wear multiple hats. In our company, our back-office team works together and supports the project managers with all correspondence, and accounts receivables. Some work on accounts payables, payroll and human resources, and others work on overseeing all back-office operations and marketing, business development, professional development, and event coordination.

“It is our responsibility to know, at any given point, contract limits, invoicing status, HR laws and regulations, employee withholdings and any changes, track leads for future teaming opportunities, and perform in-house training, as well as keep the morale up by break-

ing the routine. We have become much more than just accounting and administration.

“We have become the backbone of our company and continue to build and keep a positive morale on top of making sure that we balance every week, month, quarter, and year.”

ADVISING MANAGEMENT. Jim Hendricks, CFO at **MSA Professional Services** (Barbaroo, WI), a 310-person engineering and architecture firm, says he feels directly involved in the decision making process, in an advisory role to management.

“I have been asked to be involved and try to make it a partnership with management. We practice the following: ‘everyone thinking and acting like an owner,’ so we have a tremendous amount of collaboration—probably too much at times. We don’t have decisions being made by committee, but we do have a management group that shares the same principles.”

Dan Rayhill, controller and assistant vice president at **Hanson Professional Services Inc.** (Springfield, IL), a full-service engineering, architecture, and planning consulting firm, believes finance directors should have an extended role, “presuming that they have the right information to analyze and communicate trends. They should have an active, advisory role. We currently do and it meshes the expectations with the financial results, allowing us to tweak future goals and directions.”

The CFO at **Kleinfelder** (San Diego, CA), a 2,000-person science, architecture, and engineering firm, is part of the senior management team, says CEO Bill Siegel, and has critical input into the decisions the firm’s leaders make.

“In our industry most private firms are thinly capitalized with the exceptions typically being the larger private equity funded or public market firms. Therefore, how we use our capital is critical to the ability to grow as a firm. Further, we regularly take a look at our capital structure, and future projections, and use that analysis to help us in our decision-making processes.” ▀▀

TRANSACTIONS

MINING MERGERS: SLR, a leading international environmental firm based in the UK, has acquired **Metago**, a South African firm providing environmental consultancy services to the mining industry throughout sub-Saharan Africa and Australia.

The deal is SLR’s third international acquisition in 13 months and follows the purchase of Australian environmental consultancy Heggies (Pty) Limited and Alaskan firm Hoefler Consulting Group last year. Metago, founded in 1994, is an employee-owned company and has 63 staff based in four offices in Johannesburg, Pretoria, Swakopmund in Namibia, and Perth, Australia.

Metago is currently working on the Rossing and Langer Heinrich uranium mines located in Namibia, which account for 12% of the world’s uranium production. Demand for uranium is expected to increase over the next decade as a new generation of nuclear power stations come into development in Europe, North America and China.

David Richards, Chief Executive of SLR, said: “This acquisition is in line with SLR’s continued strategy to expand its international environmental consultancy footprint.”

PRAIRIE BUSINESS: Stahl Architects & Builders of Fargo, ND, and **Meland Architecture** of Grand Forks, ND announced that they have merged.

Additionally, Chris Hawley of Stahl Architects & Builders is joining Phil Stahl and Scott Meland as principals of the new company, **Stahl Meland Hawley Architects & Builders**.

Together, the principal partners bring more than 50 years of residential design experience to the tri-state region, and the new company is the largest residential design/build company in the area. Stahl Meland Hawley Architects & Builders, which currently employs 13 people, has offices in Fargo, Grand Forks, and Minot, ND. The firm’s primary focus is on the design and construction of custom homes.

Additionally, the firm has designed a number of commercial projects, including the Dakota Boys & Girls Ranch South Campus and the Village Homes at Park Grove in Fargo, and has served as the master planner for several residential neighborhoods.

F & A A D V I S O R

The forgotten financial statement

Where is the love for the statement of cash flows?

Just as the proverbial third wheel, the statement of cash flows gets summarily skipped over by management. In earnings calls, CFOs spend time talking about sustainable earnings and strong balance sheets. Where is the love for the cash flow statement? Cash is king, after all.

When I was learning how to read financial statements, I too did not fully grasp and appreciate what a cash flow statement was trying to tell me. All I wanted to know was the company's net income. Management 2101, the introductory course to accounting at Georgia Tech, was designed to teach engineers how accounting worked: T-accounts, debits and credits, the basics. I could build a cash flow statement. What's the big deal about cash anyway? It's easy, look at your bank statement, now read the balance. Easy. I moved on in my studies knowing what a statement of cash flows was. I just was not really sure what I was supposed to do with it.

As I matriculated through school, my assignments began to require that I create pro-forma financial models for everything from determining when to replace a pump in a refinery to coming up with a value for an entire manufacturing plant. As I began to work out these problems, it was only then that I gained an appreciation for the statement of cash flows. Positive cash flow that is greater than your investment is what drives value, not net income. Don't get me wrong, income statements are important; they just do not paint a complete picture.

I think everyone in business wants to make their firm more valuable. The knee jerk reaction is to equate growth in revenue with increasing value. The fact of the matter is that revenue



Hobson Hogan

growth can destroy value, though it can take the income statement a while to pick up on it. Let's look at two firms, Alpha Corp. and Beta Corp. Alpha is a real go-getter outfit, they have hip offices and push growth. Beta Corp.

is a bit more staid and shuns the spotlight. Below is a snapshot of their performance in 2010:

	Alpha	Beta
Revenue	\$10 MM	\$10 MM
Pre-distribution margin	\$1 MM	\$1 MM
Net working capital	\$1 MM	\$1 MM
Capital expenditures	\$1 MM	\$1 MM

Alpha Corp. is spending \$1 million on new equipment that will open up new markets and make them the darling of the industry. Beta Corp. is also spending \$1 million in capital expenditures, though it is on a new accounting system that will decrease the time it takes to bill their clients and speed collections by reducing errors. For both firms, the capital expenditures will not show up on the income statement immediately. It will be parsed out through depreciation over the years. Both firms have identical new working capital, which is current assets minus current liabilities—a measure of the cash tied up in what people owe you and what you owe your vendors.

Fast forward to 2011, how did the Alpha and Beta fare?

	Alpha	Beta
Revenue	\$15 MM	\$10 MM
Pre-distribution margin	\$1.5 MM	\$1 MM
Net working capital	\$2 MM	\$0.5 MM
Capital expenditures	\$0 MM	\$0 MM

Looking at the Pre-distribution margin, you would say that Alpha clearly made a better decision. As Lee Corso would say, "Not so fast my friend." The income statement does not show the whole picture.

Yes, Alpha increased their pre-distribution margin by \$500,000, but what did it cost them? If your answer is \$1 million, your answer is wrong. It cost Alpha \$2 million, \$1 million in capital expenditures and \$1 million in additional working capital now invested in the business.

What about Beta? They did not make any more money, so obviously their accounting system investment was a dud—nope.

Beta just squeezed \$500,000 right out of their firm without growing revenue one bit, the income statement remained the same, but cash flow increased \$500,000. If 2011 is any indication of the future, Beta will be able to grow more efficiently than Alpha because the firm will require less investment in working capital for each dollar of growth.

So, what does this have to do with the cash flow statement? The income statement does not pick up on investments or collections, just the results from operations.

You need the cash flow statement to show you how well you are collecting cash, if you are paying bills too slow or fast. It gives a manager the opportunity to see exactly what cash the operations provided and exactly how much cash was invested back into the business.

This is especially important in times of growth, where it can be unclear from the income statement and balance sheet where money is coming from and how the owner's capital is being deployed. Accountants give us all three financial statements for a reason and as a wise CFO once told me, "Net income makes you feel good about yourself, but you pay your bills with cash." ▲▲

W. HOBSON HOGAN is a ZweigWhite principal specializing in mergers and acquisitions, finance and strategic planning. Contact him at hhogan@zweigwhite.com.

"Net income makes you feel good about yourself, but you pay your bills with cash."