

## What's REALLY keeping you up?

It's your employees; Mark Zweig offers five solutions to help deal with them better.

While perhaps you should be focused on selling work and collecting money, dealing with people IS the single greatest challenge.



Mark  
Zweig

### EDITORIAL

I got a call from an old friend of mine from Boston the other day. He wanted to tell me how he liked reading my editorials in **THE ZWEIG LETTER** and that they made him feel like he was back in the kitchen of my old house in Dover, Mass. eating banana pancakes with me talking about business.

He and I have had many similar experiences in business and to some extent lived parallel lives. He owns his own firm, which is now more than a decade old. They've been very successful and are now nearly a \$20 million business. He told me a little story the other day on the phone.

When he was starting his company, his father – a very successful, multitalented guy by any standard – asked him what he thought would be the single biggest challenge. My friend thought for a moment and said, "Getting work. You've got to sell enough work to keep everyone going." His dad said, "No. You're good at that and good at what you do. You'll always be able to get work."

My friend then said, "Collecting the money. You've got to have good cash flow or you'll go out of business."

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### BEST FIRM



**Davis Bews  
Design Group  
is goal-driven**

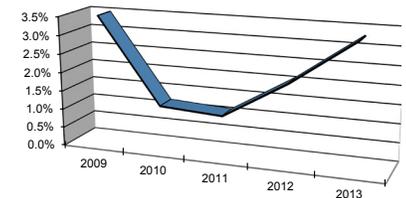
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### Spreading the wealth



Profit sharing as a percentage of payroll may have decreased with the economic challenges A/E firms faced in recent years, but it looks like firms are on the rebound, if this number is any indication. The 2013 Incentive Compensation Survey finds that profit sharing as a percentage of payroll has increased to 3.3 percent this year from 2.1 percent in 2012. In 2011, however, this number declined to five-year low of 1.1 percent. Profit sharing as a percentage of payroll was at 1.2 percent in 2010, following a steep drop from a high of 3.5 percent in 2009.

– Margot Suydam, Survey Manager

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**EDITOR'S NOTE:** In observatin of the Labor Day holiday, THE ZWEIG LETTER is not being published on Sep. 2. We will return on Sep. 9. Happy Labor Day!

## A/E BUSINESS NEWS

**CONSTRUCTION HEADING UP:** New construction starts are forecast to rise 6 percent this year to \$506 billion, according to the Midyear Update to the 2013 Construction Outlook from McGraw Hill Construction. This is the same rate of increase for total construction starts that was predicted last October, and follows the 8 percent gain that took place in 2012.

“The recovery for construction continues to unfold in a selective manner, proceeding against the backdrop of the sluggish U.S. economy,” said Robert Murray, vice president of economic affairs for McGraw Hill Construction.

Following are the main points by sector for the 2013 construction market:

- Single family housing will advance 28 percent in dollars, corresponding to a 24 percent increase in the number of dwelling units to 640,000 (McGraw Hill Construction Dodge basis). The inventory of new homes for sale is currently very low, which should spur more construction, and home prices are heading upward. The recent increase in mortgage rates has raised concern, but rates remain near historic lows and have not significantly affected affordability for most potential homebuyers.
- Multifamily housing will climb 23 percent in dollars and 20 percent in units, helped by the gains reported for occupancies and rents over the past year. Major metropolitan areas such as New York continue to see groundbreaking for large apartment projects, along with the reemergence of large condominium projects.
- Commercial building will grow 15 percent, after the 11 percent increase reported for 2012, although this year’s level of activity in dollar terms will still be 39 percent less than what was reported during the 2007 peak year. The pace of store construction is picking up, joining earlier gains registered by warehouses and hotels. The increase for office construction will remain relatively subdued in 2013, as more privately financed office projects are countered by fewer government office buildings.
- The institutional building market will slide an additional 5 percent, after falling 10 percent in 2012. While state fiscal health has shown some improvement, state and local budgets remain tight, further dampening school construction. Uncertainty related to hospital mergers and the implementation of the Affordable Care Act is restraining construction of healthcare facilities.
- The manufacturing building category will drop 8 percent, as firms hold back on plant investment given the sluggish U.S. economy and slow export markets.
- Public works construction will rise 3 percent, helped by growth for highways and bridges. The transportation sector was largely exempt from the federal spending cutbacks under the sequester, and the current year is seeing a number of large bridge projects reach the construction start stage.
- Electric utilities will see a 40 percent plunge in the value of new construction starts, following the record high that was achieved in 2012 which included the start of two large nuclear facilities. With new generating facilities coming on line and capacity utilization rates dropping, the near term is seeing downward pressure on new power plant construction.

## MARK ZWEIG, from page 1

His dad said, “No. You know what to do and you’re disciplined. You’ll always be able to collect your money.”

At that point my friend pretty much told his dad he was out of guesses. The dad then gave him the answer to the question of what would really be keeping him up at night. It was, “Dealing with your employees.”

It’s profound. And it is so true. While perhaps you should be focused on selling work and collecting money, dealing with people IS the single greatest challenge. “Why can’t they turn their timesheets and expense reports in on time?” “Why does so-and-so not get along with another so-and-so?” “Why doesn’t Bob answer his cell phone after 5:30 on Friday?” “Why does Sue have to go outside for a cigarette every 20 minutes?” “Why does Bill say stupid stuff in front of clients?” “Why doesn’t Lucy see if she just showed a little more commitment she’d be making twice what she is now?” I could go on and on.

Then yesterday, I was sitting at a client BOD meeting with another old friend

of mine. He was the CEO of one of the largest design firms in the world. He and I were talking about they managed to grow so big. He said, “I had to grow so I could have good help to deal with all of the people!”

Does any of this strike a chord with you? If so, here are my thoughts:

- 1) Hire good people.** Stop hiring for qualifications – or technical qualifications. Hire for character and personality and train for skills.
- 2) Surround yourself with better managers than you are.** These people will be calm, level-headed, and know how to work with others in spite of their idiosyncrasies.
- 3) Confront your problems.** If people exhibit dysfunctional behaviors deal with this quickly and directly. Don’t let it fester.
- 4) Stop viewing all turnover as bad.** Not everyone is going to make it in your company. That’s ok. It doesn’t make them bad or you evil if they need to go.
- 5) Delegate.** Stop making every personnel problem your problem. The person’s immediate supervisor needs to deal with it. Coach them, advise them but

force them to do it. ▀▀

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## SURVEY

# The rise of technology in design

Firms are becoming more mobile, investing on project websites and boosting design technologies.

By CHRISTINA ZWEIG  
Contributing editor

**T**echnology investments are an area of seemingly unending possibilities and difficulties for most A/E/P and environmental firms.

Surprisingly, only 86 percent of firms responding to ZweigWhite's 2013 Information Technology Survey said they had an IT department or at least one full-time, dedicated IT staffer. That percentage is, however, rising.

While investments in technology can be driven by customers who demand the latest and greatest design and delivery methods (e.g., Building Information Modeling and Integrated Project Design) as part of contractual negotiations, many firms also realize that technology is a necessity for business needs. Both basic and more advanced processes, such as knowledge capturing, dissemination, and management; project information management; and document archiving and retrieval, are generally reliant on technologies that need to be kept up to date. Many systems, such as those used for HR management or CRM systems, can provide a firm with a serious "leg up" over their competitors.

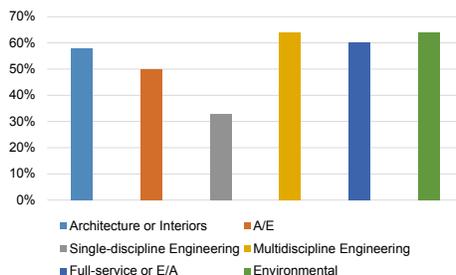
**IT'S NECESSARY.** Technology is becoming both a "cost of entry" and competitive advantage for many firms.

"Our clients expect us to use of certain types of technology to ensure efficiency and accuracy of our work, and an in-

"Our increased ability to allow mobile access from any device has improved our employee access to critical functions while in the field or working from home. The use of mobile technology, cloud computing, and custom databases have allowed us to improve many of our processes."

creasing number of RFPs require specific software or expertise. But while certain types of technology are becoming more standard, custom technology solutions still provide a very important way to differentiate ourselves from our competitors," says David Reinhart, senior technology developer at **SWCA Environmental Consultants** (Phoenix, AZ), a 750-person firm, and No. 75 on the **THE ZWEIG LETTER** 2013 Hot Firm List.

## IS REMOTE NETWORK ACCESS AVAILABLE TO ALL EMPLOYEES?



Source: 2013 Information Technology Survey, ZweigWhite.

Some of the most influential new technologies are related to mobile access – something that touches almost every area of operation at SWCA.

"Our increased ability to allow mobile access from any device has improved our employee access to critical functions while in the field or working from home. The use of mobile technology, cloud computing, and custom databases have allowed us to improve many of our processes," Reinhart says. "We have built mobile apps for use on Android tablets that improve the accuracy and efficiency of field data collection. Data collected in the field imports directly into resource-specific databases, which

automate analysis and reporting tasks. Cloud-based project websites and web apps have helped us improve communication and collaboration between project teams, and have also been a powerful tool for public outreach."

Not every firm may be as connected as SWCA, but it does seem like many are moving in that direction, the IT survey found. For example, 60 percent of firms have remote network access available all employees, and 29 percent have made it available to "some" employees. Almost half of all surveyed firms (43 percent) said they expected spending on mobile devices to increase in 2013, and 37 percent expected a spending increase for cloud computing.

## Other survey findings

**PROJECT WEBSITES.** While almost all firms need company website to be successful, the use of individual project websites is definitely on the rise.

According to the Information Technology Survey, 57 percent of firms said they have created/set up a project website. This can be a costly endeavor, depending on how extensive the websites are. Seventy five percent of these firms said they included a charge in the project fee to create and maintain this website, while 14 percent charged the client firm at cost. Seven percent of firms charged a markup on the project website.

Along with the option for a firm to host their own project websites, a variety of project website systems are available. Microsoft's Sharepoint (58 percent), firms' own custom or in-house applications (40 percent), and ProjectWise from Bentley (27 percent), are the most popular project website systems. Two-thirds of firms reported they host their own project web sites.

Once a website is created, setting access permissions follows.

Client(s)/owner(s) were understandably the most popular audience given access (77 percent). Other groups in-

See IT, page 4

IT, from page 3

clude other design firms working on the project (74 percent), only employees from the given firm on the project team (66 percent), and contractors (60 percent). All employees at the firm were given access to project websites in one third of firms responding to the survey, and only 18 percent of firms gave access to the general public.

Popular content for project websites included working drawings (75 percent) and contact information (75 percent). Photos (70 percent), calendar/schedule (67 percent), meeting minutes (64 percent), correspondence (58 percent), and tasks/assignments (51 percent), were other common content.

“Some improvements come in the form of newer, cheaper, or more accurate sensors, scanners, cameras, robots, and satellites. Other advancements are made by automating processes, improving data visualization, and enabling real-time collaboration.”

**TECHNOLOGICAL MAINSTAY – CADD AND BIM.** Almost all firms report using some kind of CADD application. Eighty-one percent now report using 3D CADD.

The most popular application was Autodesk AutoCAD, used by 78 percent of respondents. Autodesk Civil 3D was used by 59 percent, Bentley MicroStation by 56 percent, Revit Architecture by 45 percent, and Autodesk Architectural Desktop by 32 percent.

A quarter of firms are using BIM in at least 50 percent of their work, with the top quarter of firms reporting that at least 31 percent of their staff are using BIM. More than half of firms say they plan to increase BIM use in 2013.

BIM, a technology that is no stranger to opposition, is continuing to increase in popularity (and sometimes contractual necessity). Firm leaders say the advantages of using BIM include better coordination, increased efficiency, and fewer errors.

“BIM enables information from all dis-

ciplines to overlap and be compared in 3D and project teams to work together to come up with an integrated solution. The end result is a higher quality project with fewer requests for information and construction change orders as issues and conflicts are resolved in a digital environment, rather than on the field. Production processes for construction documentation are considerably faster, resulting in shortened delivery time better coordination among disciplines and better product for client,” a survey respondent said.

BIM isn’t without the familiar disadvantages, including a time commitment to learn the new software, and cost.

One survey respondent listed some reasons why BIM was still challenging: “Hardware and networking upgrades, more robust computers with more memory, RAM, high-end graphics cards and multiple CPUs. WAN devices and bandwidth usage increases due to very large file sizes generated by BIM applications and the volume of information sharing arising from the collaborative nature

of BIM projects. Storage costs for data also increase due to the large 3D models and emphasis on digital rather than paper project documents and files.”

Other reasons to not use BIM were more logistical – “Insufficient quantity and frequency of projects to maintain skills or achieve quantities of scale,” one respondent said.

Looking to the future, no matter what difficulties may arise, the industry is constantly improving from advancements in technology, SWCA’s Reinhart says.

“Some improvements come in the form of newer, cheaper, or more accurate sensors, scanners, cameras, robots, and satellites,” he says. “Other advancements are made by automating processes, improving data visualization, and enabling real-time collaboration. These trends should continue, especially with the increased use of remote sensors, Unmanned Aerial Vehicles (UAVs), and the transition toward paperless data collection and centralized databases.” ▲▲

## RESOURCES

**2013 MARKETING SURVEY:** If your firm isn’t keeping pace with industry standards when it comes to marketing, you’re risking the future of your business. But how do you know if your firm is over- or underinvesting in marketing compared to your competition? Do you know which marketing strategies lead to success, and which ones you should avoid? Do you know how many marketing staff firms like yours need to get the job done? If you want answers to these marketing questions and others, you need ZweigWhite’s Marketing Survey of Architecture, Engineering & Environmental Consulting Firms. It’s the source the most successful A/E firm leaders and marketing staffers have been turning to year after year.

The 2013 edition of this report is a must-have resource that will show you all the benchmarks you need to find out just how your firm’s marketing efforts stack up to your peers and your competition. You’ll get all the latest available statistics on all areas of marketing – spending, staff, proposals, strategies, and much more! All together, these survey results will help you see where you stand right now and enable you to start making plans and informed decisions about your marketing strategies for the upcoming year.

The topics covered in this comprehensive report are:

- Marketing staff
- Proposals & sales
- Marketing systems
- Promotion
- Marketing expenditures
- Strategies
- Challenges

This is just a sampling of the information you’ll get in the 2013 Marketing Survey. Much more is also included! You won’t want to miss out on the latest edition of this comprehensive report. Presidents, CEOs, CFOs, marketing directors, marketing managers, marketing coordinators, and business development representatives will find all the statistics they need in this one book. You’ll be able to compare your firm’s marketing side-by-side with firms just like yours and find out how you stack up. To learn what it takes to get the most bang for your marketing buck and to make sure your firm beats the competition, order your copy today!

For more information or to buy a copy, call 800-466-6275 or log on to [www.zweigwhite.com/p-2166-marketing-survey-2013](http://www.zweigwhite.com/p-2166-marketing-survey-2013).

## AHEAD

# Growth in a changing climate

Position your firm, measure results and think outside the traditional.

By LIISA SULLIVAN  
Correspondent

For better or worse, true market competition has arrived in the design sector. Economic pressures, international expansion and other related factors have pushed A/E/P and environmental consulting firms beyond the qualifications-based paradigm into the market power era.

Jane Kolleeny and Charles Linn, contributors to *Architectural Record*, quoted in a white paper released by McGraw Hill Construction in the “Keys to Success Series,” recognize this shift as one of the most important in the industry over the last century, stating, “The evolution of architectural practice – from an anti-competitive, ‘may-the-best-man-win’ culture to one in which firms have to go out and win new projects, promote their designs, and also market their firms – was one of the most important changes in our profession during the 20th century.”

Growth and subsequent success in the A/E world are now mostly earned through fierce competition. Being able to clearly show how a client will derive greater value from your services than from those of your competition is fundamental; yet most firms do not understand how to explain what makes them unique. Therefore, part of determining success rests in the ability to assess all competing firms and their respective services in order to tailor individual services to the needs of the consumer and the market industry as a whole.

**MARKETING AND POSITIONING YOUR FIRM FOR GROWTH.** Experts in the industry agree that in the wake

of the changing A/E markets, firms must adopt marketing policy aimed at increasing viability to achieve long-term success. Mel Lester, an A/E marketing expert, suggests that while on the path to company growth and success, firm leaders must create a road map for achieving such success that asks the difficult questions surrounding business growth. On advice pertaining to the concept of positioning firms for growth, Lester says, “Let me suggest an in-depth assessment of your current marketing and sales activities. How effective are they, really? Are you measuring effectiveness and return on investment or simply overall results such as sales and win rate?”

In implementing a plan for achieving company growth and success, Lester places an integral importance on marketing techniques, noting that firms can equate the number of contracts awarded directly to the type of marketing strategy (or lack thereof), that the firm has in place.

He further elaborates on this idea when he says, “This most important metric of marketing success is how much interest in your firm it produces. That’s measured by how many prospects and clients contact you as a result of your marketing efforts. To enable this, assign a distinct phone number and email address to your marketing materials and activities.”

**DETERMINING SUCCESS.** In compiling their list of successful firms annually, “Architecture Magazine” employs the use of three factors to determine the rate of firm success. For the purpose of their ranking, firms are measured on profitability, sustainability and design quality. These are deliverables that, as an industry, are often employed to measure individual firm vitality. More than focusing only on profits to determine success, growth manage-



Sam Schwartz,  
CEO, Sam  
Schwartz  
Engineering.

ment consultants suggest that firm leadership should focus on strengthening relationships with clients to achieve sustained success. In addition to traditional measures such as the number of contracts awarded, other methods used to identify firm success include: employee

retention, number of hours billed and branding.

Chris Denby, CEO of Markitecture Consulting, says that firms should not only look at financial profits when determining success. When creating a strategic vision for firm success, leaders should identify realistic goals and measures for achieving goals. Indeed, this process to achieving success is more dynamic and profits are only once piece of the larger picture.

“I’m always very careful to point out that success is more than just a financial metric,” he says. “It’s important for you and your firm to determine what those goals are before assessing the success of your efforts.”

**COLLEAGUES ON MEASURING SUCCESS.** Sam Schwartz, CEO of **Sam Schwartz Engineering** (New York, NY), a 130-person interdisciplinary transportation engineering and planning firm, says that his firm employs a two-pronged approach to measuring overall firm success.

“As a first component, firm leadership examines revenue and profit margins as a way of measuring success,” he says. “We have corporate revenue and profit goals. Each month we measure how we do against those goals.”

See GROWTH, page 12

## GOOD TO KNOW

The median net pre-tax, after bonus profit on net service revenue for fast-growth firms is 11.8 percent, and 9 percent for very high profit firms.

**Source:** 2012-2013 Successful Firm Survey, ZweigWhite: [www.zweigwhite.com/p-1163-successful-firm-survey-2012-2013.php](http://www.zweigwhite.com/p-1163-successful-firm-survey-2012-2013.php).

# 5 ways architects can drive sustainability

Early-stage design decisions can have a significant impact on building performance.

Architects are responsible for a large number of fundamental design decisions in the earliest days of a project. These decisions have a significant impact on sustainability and represent an important opportunity to shape a building's performance from its inception. While sustainable design is an inherently collaborative endeavor, requiring that a project team work closely throughout a design, early decisions about building form and aesthetics remain firmly in the domain of the architect.

There are five key areas of impact that architects can leverage to dramatically improve a building's performance.

**1) Identify the right form and orientation.** For many building types, form and orientation can have a significant impact on energy use. This is because a building's form and its related surface-area-to-volume (SA:V) ratio (the proportional relationship between a building's floor area and its envelope area) determine how much of a building's envelope is exposed to the external environment. The orientation of this exterior surface area determines how much solar gain the building receives. These elements can be combined to collect sun or keep it out, buffering against a harsh climate or opening up to a congenial one.

The optimal combination of form and orientation and the extent to which these affect energy use depend heavily on the building's use and climate. For example, if a project is in a temperate region, exposing lots of the envelope to the external environment and orienting the building to maximize natural light may be advantageous. However, if the project's climate is dominated by hot weather, minimizing surface area and orienting the building away from solar gain can be beneficial.



The above illustrates the non-linear outcomes and complexity involved in building physics analysis. The cheapest building to run offered the most daylight potential.

This gets more complex, however, in regions with mixed climates – hot summers and cold winters. Winter weather benefits from a low overall SA:V ratio (in order to minimize

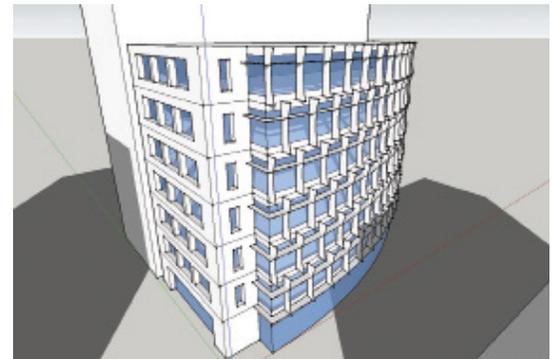


Carl Sterner

## GUEST SPEAKER

heat losses through the envelope), and a large surface area oriented toward the sun. Summer weather benefits from protection from the sun, and potentially a higher SA:V ratio in order to take advantage of natural ventilation. This is further complicated by space uses and context. Buildings with high internal loads may be less responsive to form and orientation than uses with low internal loads; and contextual factors (such as neighboring buildings) can affect sun exposure.

Of the many possible massing options that play in conceptual design, what is the best combination of form and orientation to minimize energy use? How responsive is a particular project to these factors? The complex interactions between context, use, and climate make these types of questions difficult to answer satisfactorily using rules of thumb. Fast, comparative analysis is needed.



Varying the separation and depth of external shading fins can be optimized to find the minimum energy consumption. When optimized in real-time, this type of output can guide and support façade design decisions.

**2) Optimize the façade.** A building's façade is not only a primary aesthetic expression, it is also the primary interface between interior and exterior. As such, its design has a major impact on energy use, thermal comfort, and indoor environmental quality.

See CARL STERNER, page 8

# Nickels and dimes

Costs add up, sometimes alarmingly, so be sure to discuss reimbursements.

Everyone says they don't want to nickel and dime their client and yet getting paid for doing work and providing service is the reality of how your business runs. This idiom exists for a reason in this industry. It relates to the expenses, the extra work, the scope creep, and the small amounts that just add up and would be really nice to have reimbursed.

A very fine line defines how to handle these expenses and one can say that clients with budgets don't want to be badly surprised with a bunch of additional costs. It's like the documentation and shipping fees we're tagged with when buying a car. It's like the closing costs when purchasing a home. None of us like it. Sometimes they can be negotiated away; sometimes we just pay it.

I was at a firm recently where several project managers were unsure about the firm's "policy" regarding the nickels and dimes. Here are few important things to consider:

■ **PMs legitimately don't know.** Your team may really not know what to do – and this is especially the case whether you've hired new PMs or you have promoted internally. This isn't the kind of thing that is immediately discussed the first day in the role. You've been in business long enough to have even the loosest of opinions or at least some general guidelines. Maybe it's time to have a refresher discussion or at minimum a check-in to see how they're handling these extras. Chances are good there is someone who can benefit from your advice and that of their peers.

■ **Adapt to change.** The way and cost of doing business has changed over the last few years and it has likely impacted you too. For the firm I was visiting, permits now take longer, and resubmissions are more expensive. This was something they absorbed without hesitation in the past but now the cost is three to four times that amount. The same goes for extra project meetings attended beyond what was estimated. Should the client reimburse for this? Or should you accept that as the routine of having the project?

■ **One size doesn't fit all.** There is no easy answer to that question – and that's why it's good to have an initial policy and share some experiences around the table. With full disclosure of what might be required and approximate estimates, reimbursement of these extra costs becomes more palatable to clients. If they have worked with other professional service firms, they may even expect these charges. For my client, they asked upfront and discovered the agency did reimburse (albeit with some caps) but they respected the notion they should bear the majority of that cost. For other clients, their budgets won't budge one dollar beyond what was slated so things like



Christine Brack

PM  
PERSPECTIVES

permit submissions and extra meetings have been woven in the final fee.

■ **It adds up.** Nickels and dimes can add up to large amounts of dollars for you. When working with firms on this issue, and doing some forensic accounting of project costs, we've often found alarming amounts of money given away in these small instances that were never reimbursed – or never even attempted to be reimbursed. It requires some digging but, when finished, you'll be more informed of what these extras actually are costing you, which clients readily reimburse, and which items you want to target as part of a new policy. This review should never be undertaken to get anyone in trouble, but rather to measure what you are really giving away – and could be getting back.

As we talked about these scenarios and others, the faces of the project managers lightened up considerably. Armed with additional support from their leaders and advice on how to handle future situations they have greater confidence in their role. ▲▲

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A very fine line defines how to handle these expenses and one can say that clients with budgets don't want to be badly surprised with a bunch of additional costs.

CARL STERNER, from page 6

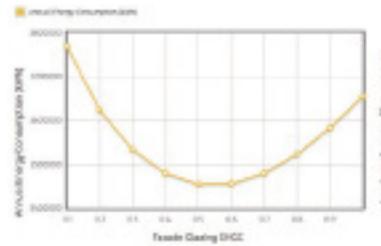
In façades, glazing is often the weakest link in terms of heat gains and losses through the envelope. However, designing an energy-conscious façade is more than just finding the right glazing ratio – it’s a matter of finding the best combination of glazing amount, type, and location paired with the right shading strategies.

For instance, a building with a small glazing ratio, clear glazing, and no shading might perform the same as a building with a large glazing ratio, high performance windows, and significant shading. A designer who understands these tradeoffs in the early stages of design can make informed decisions that simultaneously meet aesthetic, functional, and performance goals.

A well-considered façade can reduce energy use, maximize daylighting, and create a comfortable interior environment.

strategies, glazing ratios, etc.

More isn’t always better when it comes to these characteristics. For instance, it is possible to have windows that are “too good” – they keep out the sun’s heat even when it would be beneficial. Other properties can exhibit diminishing returns. Understanding how these properties behave in a particular design is critical to identifying the most important places to invest in high-performing materials.



The graph shows how varying the Solar Heat Gain Coefficient (SHGC), thus influencing how much solar gain is transmitted into the building, can be optimized to find the minimum energy consumption. SHGC is a measure of the solar energy transmittance of a window. This is sometimes also measured using the g-value.



Understanding how different façade options compare against a common baseline can create flexibility in design decisions.

**5) Understand and share design performance.** Behind all of these design measures is a more fundamental philosophy: Architects must truly understand how their designs work. This knowledge can bring sustainability into the realm of design, allowing architects to tackle the challenge of performance creatively, as an equal part of the design process.

This means that architects must understand the forces driving energy use in their building, as well as the tradeoffs and dependencies between different design strategies. Is the building heating- or cooling-dominated? Is it driven primarily by internal or external loads? Which factors will have the biggest impact on performance? Fast, intuitive analysis can provide the data that designers need to answer these questions, and can help architects develop an instinctive understanding of their design.

This shift in thinking can provide many benefits. It empowers architects to: make better, more informed decisions more quickly; be agile in response to changes as the design progresses; communicate design decisions more effectively with clients and consultants; and apply creative problem-solving to performance goals from the outset of a project.

**3) Holistic design for natural ventilation.** Natural ventilation is an effective strategy for many different building types in many climate regions. However, architectural decisions need to be made early in the design process to make this strategy viable. These architectural decisions include:

- **Thermal mass** to even out daytime and nighttime temperatures. This affects decisions regarding construction, materiality, and finishes.
- **Airflow strategy** (e.g. cross ventilation versus stack ventilation). This can affect floorplate dimensions, internal layout of the building, interior partitions, and the design of the building’s section, depending on the strategy pursued.
- **Operable area** sufficient to achieve the requisite airflow.
- **Controlling heat gains**, including solar, conduction loads as well as internal gains from lights and appliances.

Understanding a building’s potential for natural ventilation early in design can help guide these design decisions.

**4) Optimize your specifications.** The components of a building’s envelope can be optimized to minimize energy use and improve indoor environment quality. The optimal specifications for windows, walls, and roofs vary – not only based upon building type and climate, but also upon the specific design of the building, taking into account its form, orientation, shading

**NEW TOOLS HELP ARCHITECTS PERFORM EARLY STAGE SUSTAINABILITY ANALYSIS.** Decisions that architects make in the early stages of design can have a significant impact on building performance. Early, frequent feedback is critical for making informed design decisions, identifying strategies that have the most impact, and finding synergies between performance, aesthetics, and other project requirements.

New software tools for incorporating sustainability analysis into the early stages of the design process are enabling architects to take a larger role in shaping a building’s sustainable strategies from the outset – evaluating design options before the design is locked down. ▀▀

CARL STERNER is a senior product manager at Sefaira, a cloud-based software company focused on creating game-changing sustainable design software for architects.

## BEST FIRM

# Davis Bews Design Group is goal-driven

The firm has secured the top spot on the Best Firms ranking for good reason.

By BRYAN SULLIVAN  
Correspondent

ZweigWhite named **Davis Bews Design Group** (Oldsmar, FL), Inc. the number one Best Firm to Work For in 2013 in the architecture category.

Apparently, the firm's mission – "To exceed client expectations by providing exceptional design and construction documents in the timeframe we committed to and to do whatever it takes to get the job done on time." – is paying off.

**A LITTLE BACKGROUND...** Founded in 1994 by Stacy Davis, John Bews and John Wagner, the firm quickly made a name for itself in the residential design and drafting world. An emphasis on customer satisfaction and drawing excellence has positioned DBDG as one of the top drafting firms in Florida.

BDG works with production homebuilders from all over the state, as well as Chicago, Denver, and California. In fact, it works with seven of the top 100 production homebuilders in the nation.

Today, the firm has 26 employees and when Wagner was asked why the firm was founded, he said, "For the love of residential design and to fill a niche that was missing at the time, which was to create exceptional construction documents that were delivered when promised to production home builders."

**WHAT IT MEANS TO WIN 'BEST OF FIRM' AWARD.** Winning award can mean lots of different things to firms and their team members – more prestige, more work, and more validation.

Michele Whalen, strategic assistant, says DBDG was so honored to win this award.



Employees at Davis Bews Design Group, the No. 1 Best Firm To Work For in the architecture category in 2013.

### THE TEAM'S POINT OF VIEW

To find out what makes this a top firm we went straight to the employees. Here's what they shared:

**John Wagner**, vice president: "It's really about the 'entrepreneurial' atmosphere we provide here that makes it a great place to work and grow. All team members are treated as equals and everyone knows what their part is to help us succeed. We all share in the profits at the end of the year and are rewarded by a four-day company trip and an extra week vacation between Christmas and New Year's. The real reward is to exceed our client's expectations and the financial rewards are byproducts of our efforts to be there for our clients whenever needed. We aren't driven by money, but by creating raving fans with everyone we work for."

**Janien Dixon**, associate project manager: "Flex hours, great people and leadership, equipment that suits our demanding line of work, company trips, over-the-goal bonuses, and our opinions matter."

**James Carter**, assistant project manager: "Flex hours, family-style environment, quarterly goal rewards, a paid week off for Christmas, company trips, family picnics, social outings, and company gives back to charities."

**Bill Kendrick**, senior project manager: "Flex hours and open company where input is encouraged. Over-the-goal bank and annual trips are also tops."

**Scott Tiffany**, designer: "Over-the-goal bank, flexible hours, and annual trips."

**Bryan Cripe**, strategic projects manager: "A truly entrepreneurial organization with an outstanding company culture. Opportunities for development and skill advancement are unlimited. Everyone enjoys coming to work in the morning – definitely more of one big family than a typical office environment. The productivity we achieve in working extremely hard to exceed our client's expectations is unparalleled."

"We all believe that there is no better company to work for in the Tampa Bay area and we are so proud of this firm and everyone in it. This award has provided an important milestone from which to continue moving forward," she says.

**FAVORITE PERKS.** One of the reasons why a firm wins this award is awesome perks.

Scott Tiffany, designer, says that his favorite perks is the over-the-goal bank. This is a profit-sharing

See BEST FIRM, page 10

## ON THE MOVE

**PENNONI HIRES:** Pennoni Associates (Philadelphia, PA), an engineering, design, and consulting firm, announced that **Craig Barbieri** has joined the firm as the design technology manager in the Information Technology division. He previously worked as national director of practice technology for **Kling Stubbins**.

"We are excited to have someone of Craig's caliber joining our firm," said Markus Weidner, VP and director of IT. "His experience and expertise in multiple aspects of the A/E industry will certainly be beneficial to our design technology division as well as our broad client base across the entire firm footprint."

Barbieri has more than 13 years of experience in the design technology field. He has functioned as an architect, designer, project manager, and national director of practice technology. He has broad expertise in BIM, design-build collaboration and integrated project delivery. He was also the Revit Design Slam Champion and an NCARB A.R.E Candidate in 2008.

**RETTEW HIRES:** RETTEW (Lancaster, PA), a 400-person civil engineering and surveying services firm, recently welcomed **Mark O'Rourke** as director of Energy Construction Services, a division of RETTEW's sister company, **Retrew Flowback Inc.** O'Rourke will work from the firm's Mechanicsburg, Pa. office.

O'Rourke will provide vision and leadership to ECS, delivering quality services to clients, assisting with the development and implementation of strategic plans, and maintaining an active marketing role with an emphasis on business development. With an emphasis on the energy industry, he will manage projects throughout the Northeast and Midwest to ensure the highest environmental protections are achieved while maintaining the integrity of construction specifications.

"We welcome Mark to our team, and we're excited about his experience and leadership as our company continues to move forward," said Mark Lauriello, president. "His role will strengthen the soup-to-nuts services RETTEW provides to clients, beginning from early site and environmental investigations all the way through to construction oversight."

O'Rourke brings more than 25 years of expertise in construction and facility management and development. In a previous position as VP of ALD Construction Inc. in Philadelphia, he provided general contracting

and consulting services to clients in the commercial and industrial industries.

**ARUP HIRES:** Arup (New York, NY), a 1,000-person multidisciplinary engineering and consulting firm, announced that **Jeff Dunn** has joined its global team of multidisciplinary engineers and consultants. Dunn, an internationally known geotechnical engineer with a focus on foundation engineering, earth structures, hydraulic and flood control facilities, and landfill design and construction, will be leading Arup's San Francisco geotechnical team.

Dunn has assisted in the development of hundreds of complex, difficult, and innovative geotechnical evaluations and designs for clients facing critical infrastructure issues such as buildings, levees, waste disposal environmental remediation and site reuse, and transportation.

As a specialist in geotechnical soil behavior, he has a thorough understanding of characteristics and associated performance issues for soil, admixed and geosynthetic materials for their proper use on successful projects.

**SCOTT TAKES OVER OFFICE:** **Thomas Scott**, a principal with **JQ** (Austin, TX), a structural and civil engineering, surveying and facility assessment services firm, has relocated from the Dallas to the Fort Worth office of JQ to lead and manage the firm's regional growth in that market.

"Tom has worked on large-scale, complex public and private projects throughout the U.S. during his 22 years as a structural engineer. His experience and knowledge, along with his leadership skills, will enable us to aggressively grow JQ's presence in Fort Worth and surrounding communities," said Stephen Lucy, managing principal.

Established in 2007, JQ's Fort Worth office has been engaged in many high profile projects. The firm is also providing the structural and surveying services for the City of Fort Worth's new Public Safety Training Center, utilizing new LiDAR technology for producing 3D scans and models of the existing buildings.

"Over the past six years, JQ has built a solid foundation in Tarrant County," Scott said. "We have an impressive team of engineers and technicians in our Fort Worth office ready to assist with design or design/build for infrastructure and vertical construction."

## BEST FIRM, from page 9

plan. At the end of the year, when the set goal is met, a portion of the remainder of the money is divided among employees.

"While the money is nice at the end of the year, it's more than that. It provides a strong sense of accomplishment and ownership," he says.

James Carter, assistant project manager, really enjoys the company trip (G3 – Group Goal Getaway) that DBDG takes every year when the firm hits the year-end goal.

"This is a great time for team-building with everyone, to see everyone outside the work environment and to unwind for a couple of days," he says.

Bryan Cripe, strategic projects manager, most enjoys the "Mental Health Days" because "they provide flexibility to plan a long beach weekend each month through the summer," he says.

**THE WOW FACTOR.** Whalen says that this firm is all about culture and the perks/benefits offered are definitely part of the culture.

"Our employees are excited to come to work because it's a fun, friendly place to be and they feel good about the work they do," she says. "They stay here because they know their voice will always be heard and there are always financial and leisure benefits for their dedication."

And, ask an employee what they think about their leaders and the comments just roll in.

Whalen says that John Bews is a strong firm leader who is not afraid to change, grow and learn from mistakes. He wanted to create a firm that could "wow" clients and he succeeded in also "wowing" his employees in the process. Together with John Wagner, he has cultivated a firm that is more like a family.

Bill Kendrick, senior project manager, says, "Once you are part of the team, you don't want to go anywhere else." ▀▀

## BUDGETS

# Reigning in and spending more

Firms continue to look for ways to reduce operational costs while investing on human capital.

By LIISA SULLIVAN  
Correspondent

**K**eeping expenses under control is always important to the financial health of any business. However, to grow one needs to spend. So, where are firms investing and where are firms cutting back?



John McGrath,  
COO, Advantage  
Engineers, Inc.

**CUTTING BACK.** John McGrath, COO, **Advantage Engineers, Inc.** (Columbia, MD), a 120-person engineering consulting firm, says the company is working to reign in telecommunications- and travel-related expenses primarily.

“We are currently moving all of our offices to VOIP systems, which lowers our monthly service expense and gives us enhanced capabilities that includes video conferencing, which can replace some travel,” McGrath says.

**SPENDING MORE.** McGrath says that for the upcoming fiscal year, Advantage plans to make significant investments in recruitment and new facilities in order to accommodate current and planned growth.

Vivian Lewis, president of **GeoConcepts Engineering** (Ashburn, VA), a 59-person geotechnical firm, says that from 2007 to 2010, it was focused on identifying and cutting back on unnecessary expenses due to the recession. However, since 2010, GeoConcepts has grown consistently. As a result, it has focused on investing its money strategically to improve the firm through hiring staff, purchasing equipment and



Vivian Lewis,  
President,  
GeoConcepts  
Engineering.

providing professional development to its existing staff.

“We have remained vigilant in assessing our expenses and have luckily not had to focus on reigning in any particular expenses, which has allowed us to focus on strategies for increasing revenue,” Lewis says.

Lewis says that the bulk of expenses for the upcoming fiscal year revolve

around hiring new staff.

“As a consulting engineering firm, our staff is always our greatest asset, but also our greatest expense,” she says.

**CREDIT: WHO SPENDS WHAT?** Kevin Nisson, CFO at **KARN CHARUHAS CHAPMAN & TWOHEY** (Washington, DC), a 45-person, full-service architectural, planning, and interior design firm, says that KCCT extends an allowance to its VIPs for spending purposes such as entertaining and promoting.

See SPENDING, page 12

### CURRENT REVENUE TRENDS

A/E firms continue to seek market intelligence tools and resources to help better develop business objectives and strategies. Two major firms – Grassi & Co. and Zetlin & De Chiara LLP, with expertise in construction accounting and construction law, joined together to conduct an A/E industry survey of companies based in the New York Metropolitan region to identify and examine some current practices and trends that affect the industry.

With expected increases in revenue, gross margins and headcount for 2013, A/E firms are seeing signs of improvement, according to the 2013 A&E Market Outlook Survey. Half of the executives surveyed predict a full A/E market recovery will take place in 2014.

Here are some important data points:

- 71 percent of the executives surveyed reported their revenues are expected to be higher in 2013 than they were in 2012, while less than 10 percent reported they expect their revenues to decrease from 2012.
- More than 75 percent of respondents expect their headcount to increase in 2013, specifically at the professional and general administrative levels.
- Half of the executives believe an overall A/E market recovery will not occur until 2014.
- A majority of executives reported expansion of business offerings and expansion of geographical reach to be primary business strategies that were a focus in 2012 and will continue to be a focus in 2013.
- A significant number of the respondents indicated their top business goals for 2013 and 2014 include increasing profitability, containing costs, hiring key staff and improving accounts-receivable collections.
- More than 60 percent of executives reported they are looking to invest in technology for business and infrastructure as well as design (BIM and modeling integration) in 2013.

### TECHNOLOGY REMAINS AT THE FOREFRONT

Some firms are using technology and accounting software because they have to. Others are using it as a tool to improve efficiency and client satisfaction. Technology was very important to the operations of 66 percent of the executives surveyed and 70 percent indicated their short-term technology investments will be focused on business and infrastructure systems. Why? Many companies are interested in implementing initiatives that will help them to better meet their clients' higher expectations in 2013 and 2014. Investments in technology that improve quality of service are likely to be priorities.

## TRANSACTIONS

**BAKER AGREES TO SELL:** **Michael Baker Corporation** (Pittsburgh, PA), a 3,000-person engineering, design, planning and construction services firm, announced that it has entered into a definitive merger agreement to be acquired by Integrated Mission Solutions, LLC, an affiliate of DC Capital Partners, LLC.

IMS is a rapidly growing, global provider of a comprehensive continuum of mission critical services and solutions.

Under the terms of the agreement, which has been unanimously approved by Baker's board of directors, Baker shareholders will receive \$40.50 in cash for each share of common stock that they own, in a transaction valued at \$396.9 million. The per share price represents a 37 percent premium to Baker's closing share price of \$29.60 on July 26, 2013, a 55 percent premium to the average 90-day share price, and a 93 percent premium to the share price on December 18, 2012, the day before DC Capital publicly proposed to acquire Baker.

Under the terms of the agreement, a subsidiary of IMS will commence a tender offer to acquire all of the outstanding Baker common shares. Baker's BOD unanimously approved the offer. Any shares not tendered in the offer will be acquired in a merger at the same cash price as paid in the tender offer. Closing of the tender offer is conditioned upon customary closing conditions, including the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act. The transaction is expected to close late in the third quarter or early in the fourth quarter of 2013.

"Baker is a well-known and highly regarded firm in the architecture, engineering and construction services industry. The transaction, which we believe delivers outstanding value to shareholders, results

from a thorough, extensive strategic assessment process initiated by the Board early this year," said Robert Bontempo, chairman of Baker's BOD. "We believe that this union with IMS will provide substantial value to shareholders, while reinforcing our commitment to our customers to continuously provide them with excellent service and high quality professional services."

In an effort to preserve Baker's heritage and culture, IMS has agreed to retain the Baker name, maintain Baker's presence in the Pittsburgh area, and keep the current organization and staff of Baker essentially intact.

Thomas Campbell, chairman of IMS and founder of DC Capital, said, "This is a significant step for both companies. The combination of Michael Baker and IMS will create a company with over \$1 billion in revenue, approximately 5,000 employees, and a platform with global reach. IMS has a strong presence internationally with a history of operating on all five continents. This geographic footprint in support of our customers in growth areas such as infrastructure, development, intelligence, and technology combined with Michael Baker's complementary capabilities, highly certified, security cleared workforce, and distinctive North American presence will greatly enhance our collective ability to manage and execute larger projects."

The transaction will be financed through a combination of cash provided by IMS as well as debt financing that has been committed, subject to the terms of a commitment letter, by Jefferies Finance LLC. Jefferies LLC is also serving as exclusive financial advisor to IMS and DC Capital. Arnold & Porter LLP is serving as legal advisor to IMS and DC Capital. Houlihan Lokey is serving as financial advisors to Baker in this transaction. Jones Day and K&L Gates are serving as legal advisors to Baker.

## SPENDING, from page 11

"At this time, only the treasurer holds the company credit card, but a change is underway to provide a card to each of the five principals," Nisson says. "Some principals need the card for travel expenses and lodging while on business travel."

To address the issue of VIP spending at KCCT, the firm prepares an annual operating budget that is easy to track and includes an allocation for meals and entertainment, promotion, and employee enrichment, among other types of spending allocations.

Spending limits are dictated by the annual operating budget

and are often left to the discretion of the card holder.

"Usually these expenses involve the pursuit of new business, new projects or the hiring of new employees and are usually incurred by the firm's executives or principals from personal sources, such as a credit card, and then would be reimbursed to them by the firm through an expense report procedure," Nisson says.

Nisson adds that the firm allows this procedure to occur in order to maximize the potential of positive exposure and for the possibility of future rewarding service opportunities. Additionally, KCCT books attendance at conferences and occasionally many employee development and enrichment costs with a credit card. ▲▲

## GROWTH, from page 5

In addition to these traditional methods, Schwartz notes that the firm uses ZweigWhite-identified parameters for measuring success and growth.

"We use ZweigWhite benchmarking for numerous parameters including backlog, billability, net revenue per employee, growth and average collection time," he says.

In each of these categories, Schwartz notes that, "We compare ourselves against the median and the 75th percentile. We strive to be at or above the 75th percentile." As a final measure for determining company success, Schwartz says

that the firm employs the use of an employee report card.

"On this employee report card, we have many indicators, but the one I watch most closely is 'Gross Company Happiness.' A happy company that works on exciting projects, offers room for growth, has fun and makes some money makes me a happy CEO."

**THINK OUTSIDE THE TRADITIONAL.** In a changing economy, forecasting and analyzing firm success is important. In measuring success, one thing is clear: firms are thinking outside the traditional measures of success as they look to more creative measures to supplement their traditional roots and paint a vibrant picture of firm success. ▲▲