FMI Quarterly

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FINANCE: FACT OR FICTION

THIS QUARTER

Financial Fact and Fiction 4

BY JERRY JACKSON

QUARTERLY INTERVIEW

What's Ahead for P3s in the US? 6

BY COLIN MYER

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Perspectives
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FEATURES

Twelve Essential Roles for CFOs in 2012 20

The CFO is often the last line of defense in avoiding crippling errors and omissions and is the driving force for positive changes to enhance productivity.

BY LEE ACKERMAN AND KEN ROPER

Financing Energy Efficiency Projects 32

There is no more important work being done in American infrastructure than energy efficiency.

BY DAVID CLAMAGE AND TIM HUCKABY

Doing What You Promised, On Time 40

As you roll out customer satisfaction initiatives, take a page out of the playbooks of companies in the service industry.

BY STEPHEN BOUGHTON

Tilting at Windmills: Innovation at Westphal 50

Each quarter Cynthia speaks with leaders in the A/E/C industry on topics that echo the theme of the issue.

BY CYNTHIA PAUL

Money Builder: Developing a World Championship Team 58

Building a profitable franchise requires executives to measure the right things, make the right decisions and keep their eyes on the ball.

BY GREGG SCHOPPMAN

How Strategic Plans Play Out in the Real World 72

To complete this series on strategic planning, senior executives of design and construction firms were asked how their planning efforts and keeping up with changing market conditions relate to key principles of strategic planning.

BY STEVEN J. ISAACS AND KAREN L. NEWCOMBE

Public-Private Partnerships: What You Need to Know 82

As P3 knowledge begins to percolate through midsized contractors, we can expect an efficient, high-quality U.S. brand of P3 to emerge and compete with other delivery methods.

BY SABINE HOOVER AND COLIN MYER

Measuring Financial Success 100

Successful financial performance is the result of meeting goals and actions in three areas: operations, marketing and human resources.

BY LOUIS L. MARINES

This Quarter:
Financial Fact and Fiction

Dear Reader:

Our theme for this issue concerns finance: the management of money or that branch of economics concerned with resource allocation, management, acquisition and investment. For most of us, finance and money have been interesting in part because of their perceived objectivity. Give us facts, not fantasies! Let us deal with the bricks and mortar of the business world, not the soft stuff of the social sciences! Finance lends itself to measurement, to quantification, to accumulation (when handled appropriately.) Yet one of the lessons of the past four years has been a reminder of a notion of the 18th century Scottish economist Adam Smith: “All money is a matter of belief.” This might seem a heretical statement to those of us schooled in the notion of financial mathematics as absolute. But consider these thoughts. To what extent does the general belief in the stability of the economy of Greece affect the value of your public stock portfolio? To what extent is the value of a piece of property dependent upon the veracity of the providers of the gross income, the operating expenses, the net operating income, the occupancy rate? How dependent is a third-party valuation of an asset impacted by the methodologies, comparatives and judgments supplied by the appraiser? How much is money worth? Can we totally sever fact from fiction, perceptions from realities, abstractions from fungible assets?

So we aim to challenge you, provoke you, tease you and guide you with the theme-based articles of this issue. As usual, we also offer you articles both shorter and longer that are not on-theme, but that we believe will add dimension to this issue, while bringing you both ideas and information that you can put to use.

Herein you will find *Twelve Essential Roles for CFOs in 2012*, co-written by CPA Lee Ackerman of Brock and Company and FMI’s Ken Roper, examines how firms can capitalize on their CFOs and increase asset values while mitigating liabilities. *Financing Energy Efficiency Projects*, by David Clamage, president of Saulsbury Hill Financial, LLC and FMI’s Tim Huckaby, focuses on the project financing markets for four building energy efficiency retrofit verticals — Federal, MUSH (municipals, universities, schools, hospitals), institutional, and commercial and industrial.

In *Doing What You Promised, On Time*, Stephen Boughton shows how excellent customer service must be a top priority for everyone in the organization. Louis Marine's *Measuring Financial Success*, illustrates how successful financial performance in a well-run firm is the result of meeting goals and actions in three essential areas: operations, marketing and human resources. In *Tilting at Windmills: Innovation at Westphal & Company*, veteran Cynthia Paul interviews John Westphal, president and CEO as part of our series Conversations with Cynthia.

Gregg Schoppman provides a thought-provoking look at how the construction industry's context is ever shifting and building a profitable franchise requires executives to measure the right things, make the right decisions and keep their eye on the ball in *Money Builder: Developing a World Championship Team*.

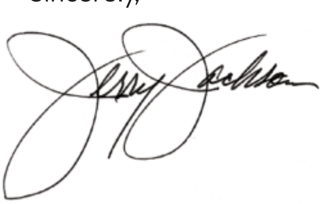
How Strategic Plans Play Out in the Real World, by Steven Isaacs and Karen Newcombe, is the last part of their series on strategic planning, and they describe how actual plans have worked in action.

Public-Private Partnerships: What You Need to Know by Sabine Hoover and Colin Myer, explains how contractors need to be aware of the many intricacies involved — at the political, public and industry levels — that shape the complex P3 market.

This issue's interview looks at the U.S. P3 market as Colin Myer interviews Geoff Delisio and Nancy Simonson of our sponsoring partner, Zurich, and Henry Lombardi, executive vice president of AON's Construction Services Group.

Money does make the world go around, as suggested by the lyrics to the Cabaret show tune. And the business people of the construction industry make the money go around. We hope that this issue of the *FMI Quarterly* stimulates some actions on your part that enables your money to go around faster with lower frictional costs and greater accumulation in your accounts. Thank you for your support of our publication.

Sincerely,



Jerry Jackson
FMI Quarterly Publisher and Senior Editor

Quarterly Interview

What's Ahead for P3s in the US?

Geoff Delisio
ZURICH NORTH AMERICA

Nancy Simonson
ZURICH CONSTRUCTION

Henry Lombardi
AON'S CONSTRUCTION SERVICES GROUP

According to FMI's Research Group, the number of construction projects in the U.S. that are more than $1 billion has gone from zero in 2005 to 104 last year.

PUBLIC-PRIVATE PARTNERSHIPS (P3s) involve a contract between a public-sector authority and a private party, in which the private party provides a public service or project and accepts financial, technical and operational risk in the project. This risk transfer from the public to the private sector is a crucial component of all P3s, with the ultimate goal to combine the best proficiencies of the public and private sectors for mutual benefit. Typically, P3s are highly complicated, involving numerous stakeholders with various business backgrounds and mindsets, and are usually surrounded by a complex political environment.

FMI's **Colin Myer** spoke with **Geoff Delisio**, head of Contract Surety, Zurich North America and **Nancy Simonson**, senior vice president, Zurich Construction, about what they saw as some of the drivers and challenges for the P3 market in the United States. Colin also spoke with **Henry Lombardi**, executive vice president and chief global broking officer at Aon's Construction Services Group. Aon is one of Zurich's national brokers and has been leading many P3 projects.

Myer: What is your impression of what the next 12–18 months will look like for the P3 market, specifically for the United States?

Delisio: From what we have seen and heard in the marketplace, the next 12-24 months will be somewhat of a transition phase. We are hearing about many more state and regional transit agencies looking and discussing this. We have had several meetings with state agencies to get their thoughts on it and provide ours from a surety perspective. I'd love to say that by the end of the year there will be 50 projects started or out for RFPs, but I think the next 12–24 months will be more of a transition time. We will see folks, for a lack of a better word, sticking their toes in the market from an owner perspective — learning about it, trying it. The Texas DOT has put out several RFPs that actually ask for both, from a construction perspective. "Give us your thoughts on a traditional design-build and give us your thoughts on a P3 model bid." From our perspective, we see that continuing. But at the end of the day, we see the procurement model becoming a staple over the longer term.

Myer: What do you think the driver for it is? Do they gravitate toward design-build because that is where they think they will get the biggest bang for their buck?

Delisio: From the people we have talked and met with in the states, I think finances (or the perception of finances) have been the biggest driver. I think that when they get into it, multiple owners begin a journey. At first, they may look at it as a tremendous source of cash in a time when most governmental agencies are cash-strapped. The ones that truly understand the procurement model focus more on value for money, while from a pure debt perspective, they potentially can get publicly guaranteed debt for a few points cheaper than they are going to pay under a P3 model. When they holistically consider the entire project, budgetary certainty, speed of construction, the O&M services piece — and some of the efficiencies that a private enterprise can bring — I think owners tend to see some other benefits. However, this tends to happen once they get down the road a little bit. But I do think the first driver is, "Hey, this is a great source of money." But then it evolves over time.

Myer: That leads to my next question. There are four or five states that are the leaders here. What states do you see next as being adopters of this delivery method?

Simonson: California, Florida, Illinois, Texas and Virginia. Additionally, Arizona was requesting assistance with its infrastructure program needs at last year's P3 conference. These states have significant infrastructure projects to deliver in the near future, and P3 will be one of the solutions presented. But it will depend upon the learning curve that Geoff talked about earlier. Arizona is looking for a team to explore alternatives for project delivery and advise it on how to put a P3 together — from feasibility to finance to project construction and ultimately operations. A number of states are exploring P3, but it is a tremendous learning curve.

Delisio: Correct. I think the only state I would add is Indiana. It has already had some exposure to P3 through the lease of the existing turnpike to a concessionaire. From what we are hearing now, there is a rather large $3 billion to $5 billion project — the Ohio River bridges in southern Indiana and northern Kentucky. It looks like the project divided into two — the one Kentucky controls will be design-build, and the one that Indiana is going to contract will potentially be a P3. So that would be the only other state that I would add to Nancy's list.

Myer: What are some of the products that Zurich offers for P3?

Exhibit 1

Zurich's Public-Private Partnership (P3) Integrated Solutions

Source: Zurich

Simonson: We have a timeline, which shows the risks by phase and then correlating products and services that Zurich has to mitigate those project risks (See Exhibit 1.) Additionally, we are talking about adding Geoff's new liquidity product as well as enhanced professional coverage, which includes design of the contracts and associated IPD development. We have always thought that contract formulation and management is a critical component of a successful P3. It requires a contract development process to assure that the right people are taking the right risks. The end results would benefit the project and all of the participants and stakeholders. As we contemplate adding those two products, we are also taking a look at the process on a horizontal basis.

Myer: You reference rating agencies a couple of times. Geoff, have you discussed P3 with Moody's or S&P?

Delisio: Yes, we have visited with the rating agencies several times over the past 18 months. In our discussions with them, we think fundamentally that insurance is overlooked and potentially underutilized in these transactions. The basis for all of our products is the transfer of risk to a third party for a fee. In Zurich's specific case, that risk can be transferred to a AA-rated third party, which can provide the finance folks with a lot of comfort.

Our challenge for the entire Zurich organization is to understand the new risks and rewards as well as the nuances in this procurement method, and then to change our products to match that. I am not saying that the rating agencies are currently embracing this, but it is clearly something that we have tried to make them aware of. From Zurich's standpoint, we have had discussions with them on the benefits of having many of those coverages with a single carrier. At the end of the day, their driving focus is related to time. If that asset is supposed to generate cash on April 1, then the asset needs to generate cash on April 1. Where that fits into a single carrier approach is that sometimes when there's an incident and the GL and E&O are handled by separate carriers, they end up pointing fingers at each other (i.e., the reason the retaining wall fell was because of your designer. No, no, it was actually a GL issue). Those are some of the things we've talked about with the rating agencies. I think they are a little reticent because historically, all of our products have not been liquid enough to meet some of their needs, real or perceived.

The concern of the North American accounts was that if P3 unfolds and is completely driven by letters of credit, that's not necessarily a sustainable business model from a project security standpoint.

— GEOFF DELISIO

Myer: Do the rating agencies see that there may be more P3 in the future? FMI's research department has seen that there are significantly more projects greater than $1 billion in 2011 and that the large projects have grown probably by a factor of 30% a year for the last five years. Do you sense that the rating agencies are seeing this too?

Delisio: I don't want to speak on their behalf, but I will say from the flow of the conversations we've had with them, this is something that they are putting a lot of time and effort into. I would think they share the same thought as many people in the market as this is something that will play a major role. But we never talk to them about perceived market size, share or anything like that. I do know they are putting some really smart people on this, which tells me that they think this is a very important area.

Myer: Can you highlight some of the new things you have on the table?

Delisio: Just to give you a little background, 18–24 months ago several of our large accounts came to us from Canada and said, "P3s are in our market, and we think they are here to stay." At the same time, we had people in the U.S. say, "We see it coming." Their concern was related to how a traditional North American contractor's balance sheet is structured; they don't have the access to a $1 billion or $2 billion bank facility. There are some structural differences between how an exceedingly strong North American contractor looks as compared to some of their global counterparts.

The concern of the North American accounts was that if P3 unfolds and is completely driven by letters of credit, that's not necessarily a sustainable business model from a project security standpoint. They might be able to have one or two ongoing projects, but once P3 takes hold, they are not going to be able to have a portfolio of 10 to 12 projects because they just don't have that kind of bank credit.

We spoke to some rating agencies and lenders, and spent a lot of time in Canada looking at their living laboratory of 100+ projects they've procured from the P3 framework. From all of those discussions, it really came back to two points. First, the surety product needed to have a liquid element if it was truly going to be useful. Second, there were discussions on how to compress the claims handling time.

For the surety product, we took what would be considered a traditional performance bond, added a liquid feature to it and put some definitive time frames around claims handling. We unveiled this new product at the end of November and have received tremendous positive feedback. We're now at a point where we are actually going back to the lending community and having them approve the form, because for us, that's key.

Myer: Absolutely.

Delisio: Our clients want to use these products, but it ends up getting kicked up to the concessionaire and then the lender who says "No, that's not acceptable." So we are doing a lot of legwork and are having meetings with lenders and influencers within that community to get some sort of pre-approval on the format.

Myer: You have a product that really is evolving, and you are doing the right things by getting out in front of the lending community to make sure that they are OK with the liquidity portions of it. That is really their ultimate goal — that they get their compensation or coverage as quickly as possible. You are right in the middle of getting that perfected.

Delisio: The positive that has come out of these efforts is that many of our contractors have been an effective sales force. They are interested in using the product yet the decision makers will be the lenders or underwriting group if it's bonds. We have had several contractors out in the marketplace actively talking about the new form to that community. So it's been very positive to date.

Myer: Is there anything else you would like to cover?

Delisio: If we are just talking about a contractor coming in to do a design-build project (i.e., with no percentage to a concessionaire, etc.) what are the risks?

You're doing a normal publicly funded project where there are change conditions; regardless of who may be at fault, there is an ability to secure additional money because it's a taxing entity. There is the ability to get a change order approved because there is a pot of money somewhere.

In the P3 world, while there are contingencies built-in for things like change orders, there is not a bottomless pot of money. While that is somewhat of a nuance risk from the financial perspective, it is always one we talk about with our clients. Through the pre-con and preparation processes, there are ways to mitigate this risk, but there is a fundamental difference because of the funding source.

Myer: I guess that risk is probably the same in design-build, isn't it?

Delisio: Yes, but if it truly was a change condition, there is the ability to get relief in a traditional procurement method. With several of the P3 projects we have seen, that same type of relief that would traditionally be accepted with a change order are now risks the design-builder or the concessionaire has to take.

In the P3 world, while there are contingencies built-in for things like change orders, there is not a bottomless pot of money.

— GEOFF DELISIO

Myer: It's a risk they have to absorb.

Delisio: Right, particularly through pre-con and more exhaustive engineering and especially on the geotech side. We've heard some of the geotech studies prepping P3 projects are more exhaustive as compared to the prep work normally done with design-build. There are a lot of ways to mitigate that risk, but it can fundamentally be a very different risk.

Myer: When a contractor wants to get into the concessionaire box, how do you deal with that? Is that a serious red flag? My sense is that you are going to see more and more of that as we move forward.

Delisio: Making the transition from being solely at a design-build level to also being a 2%–3% player at the concession level really comes down to the financial strength of the underlying credit. It does change the underlying risk profile of that construction account. To date, many of the folks who have been interested in this area have the financial wherewithal where the transition makes sense. But it is very much a credit decision.

From a surety perspective, we are the historical "the glass is half-empty" industry. We tend to take a relatively conservative view of the world. Not only do you have more activities to manage, but you have to have the balance sheet and the financial wherewithal to weather those risks. Construction in and of itself is a risky and challenging business. Making that switch to, in essence, a developer at the concessionaire level introduces some additional risks. At the end of the day, most of the debt is non-recourse. What is more problematic for us tends to be the GAP-financed projects. The majority of the competitive debt in that market tends to be recourse; it puts the risk in a completely different basket.

There appears to be increasing interest from contractors in the P3 delivery method.

— NANCY SIMONSON

Myer: That does tend to be a challenge for people.

Simonson: We've been asked by several of the larger contractors to go through the whole P3 risk scenario from project feasibility through operations. There appears to be increasing interest from contractors in the P3 delivery method. Zurich is the only insurance carrier that has the capability of putting all of the services and coverages together, from beginning to end, and increasing that liquidity for all stakeholders through the combined claim process.

Colin also spoke with **Henry Lombardi**, executive vice president and chief global broking officer at Aon's Construction Services Group. Aon is a market leader in contractor and homebuilding insurance products, surety bonding, owner and contractor wrap-up programs, and risk assessment services.

Myer: Henry, what is your impression of what is ahead for the U.S. P3 market?

Lombardi: A large number of ownership of contractors is changing. Colin, I think the issue that we see is that in the last few years is that many European contractors are coming in and buying contractors or establishing a beach head here in the United States as contractors. So if you look at the Spanish contractors — Dragados, OHL, FCC — if you look at other contractors who are coming here from China, from Hochteif — they are all looking at the privatization model and they're putting contractors here. So what you have is a more global platform where contractors who come from Europe bring their expertise on privatization projects they have done in Canada. They are coming into the United States.

Myer: You are absolutely right. There is no question that the leaders on the concessionaire side, the design-builder side, are really the Europeans. The Americans are playing catch-up right now.

Lombardi: When you look at it, the U.S. has a definite need for updated infrastructure. The U.S. has, in the past, bid out projects to contractors, who have received their funding, built the job and moved on. The privatization model presents challenges for the contractor or the concession team from a standpoint of running the operations in conjunction with running the construction operations. I think those are the unique challenges that the U.S. market is starting to deal with.

I think the other issue is the legal side within the U.S., where contractors and even concession teams are having great difficulty because there is no uniform contract. Each state has its own contractual requirements; each authority has its own contractual requirements. The cost to bid these becomes very high and time consuming from a standpoint of constantly having to reinvent the contract and look at the risks associated with it. In Europe, much of the risks center on builder's risks and property. In the U.S., many of the risks center on workers' compensation and general liability.

Myer: What does the impact of that change or that difference lead to in terms of the discussion between the owners and the design-build team?

Lombardi: I think what happens is that you have a board of requirements or a board of risks. Traditionally, you do not have worker's comp in Europe, and you don't have the general liability exposures in Europe that you have in the United States I think what is happening is the owner, the municipality or authority is trying to push as much risk to the concession team. The concession team is looking to move as much risk off its balance sheet to the contractor, and the contractor, traditionally, is always looking to limit its risks. I think that it is unique in the U.S. that we are still learning how to deal with this.

Myer: Talking about risks, the model of the letter of credit versus the surety is a significant difference that the American contractors and maybe even the American surety industry are getting their hands around. It's a different ballgame.

Lombardi: This is not my area of expertise, but traditionally, in the U.S., you would bond a project for 100% of the costs. Recently, as jobs have gotten bigger, sureties or authorities

In Europe, much of the risks center on builder's risks and property. In the U.S., many of the risks center on workers' compensation and general liability.

— HENRY LOMBARDI

have agreed to put out a bond for a percentage of the project. However, they still charge based on the total project. The European model is to use letters of credit. That is very different philosophically — two very different approaches.

Myer: According to FMI's Research Group, the number of construction projects in the U.S. that are more than $1 billion has gone from zero in 2005 to 104 last year. Not all of those are P3s, clearly, but there is a significant trend toward owners grouping projects together under a bigger dollar amount. Is that something that you have noticed as well?

Lombardi: Yes, we see project size getting bigger. There are many corporate plants, such as Apple that is in the process of working on a $3 billion campus. What you do see, and again I think it's a combination of an aging infrastructure — is when you're looking at the Tappan Zee Bridge, which is a huge project, and you're looking at some of these other projects, the owner is trying to say, "OK, if I'm going to privatize it, I might as well put together as big a project as I can."

What you also have to look at in privatization is that some of these contracts include a large portion of O&M — the operations and maintenance of the existing assets. When you're looking at a project where you're taking over an existing facility and you have to collect a toll or improve the toll collecting system, that's over a period of time, so the project size tends to be larger. I do think that people are trying to aggregate the job size.

Myer: It seems to be a noticeable trend, and along with that comes the desire to think about the P3. One of the things that is part of the P3 is you have to bring the financing. What are your thoughts on delivering that as part of an overall package, and what are the implications for contractors?

Lombardi: There is really a line that is drawn between the concession team, which is looking at the money, versus the contractor, who is going to bid out the project. Traditionally, I have been involved in more of the contractor side, where the contractor is building the project. On the financing side, that really goes back to your question about the surety and letter of credit and the financing of the project. What we have found is, in a large number of these projects, even though there could be the same ownership at the top, the concession team and the contracting team are two separate entities that are both looking to make the most of the project from an economic standpoint and move as much risk off of their balance sheets to someone else.

Myer: And even though the groups may be the same, those are sometimes conflicting priorities.

Lombardi: Right, and that is something that I think is unique here.

Myer: One of the trends I think we see is more and more contractors saying, "I want to be in the concession box."

Lombardi: I think that the larger contractors have divisions that are not concession operators. I don't know that contractors are going to say, "I want to get into the operations of the hospital or the operations of the toll road." They might have a subsidiary that wants to do that, but the contractors who are building are really builders.

Myer: I think that's right. Obviously, these models leave room to bring in, in effect, an outsourcing solution for operations and maintenance. I sense that the contractor is interested to be in the concession box and talking directly to the owner.

Lombardi: You can have Balfour Beatty and Fluor as both the design-build contractor and the maintenance for the partnership of the Denver Eagle Fast Track P3. However, for that instance, I think what you have is two separate structures. It's the same company, but they break the structure down.

Myer: So what you are saying is in the separate structures, they have groups that do the operations and the maintenance.

Lombardi: Right. The contractors go in and bid a job, allocate their assets, finish it and close out the project. From their balance sheet, they are going to shut that down. There is a separate balance sheet that's going to run the project as an ongoing operation. So, though the names may be the same, like a Skanska or a Dragados, an ACS, — all the same ownership, but there is a distinct understanding of what each party does and what their responsibilities are.

Myer: In the negotiation of the design-build contract, what I have gathered from different contractors is that they feel like they are told what the number has to be, as opposed to having some flexibility as to negotiating, and therefore, that seems to be a driver to get into the concessionaire box. Not necessarily the profitability of the operations and maintenance, but more of a "seat at the table." Is that something that you have noticed?

Lombardi: I've noticed that some of the ones that we've been involved with lately, they're trying to be more collaborative and there's more connectivity. But there's definitely still an aspect of, "I'm the concessionaire, I'm bringing the money — you're the design team, you design it — and I need your best price." In the traditional model where the government or municipality would bid out a road, it's low bid. In this instance, much of this hinges on value engineering, on the ability to come in with a different methodology for the construction.

Myer: It's the best-value approach.

Lombardi: Right.

Myer: What is your view about P3s in the future?

Lombardi: I think P3s are the future in the United States, and I think the

U.S. still struggles with that. There is a lot of work that has to be done to rebuild the infrastructure. The concept is sound, but we as a country have not endorsed it or embraced it to the degree that Europe or Canada has.

> **The concept is sound, but we as a country have not endorsed it or embraced it to the degree that Europe or Canada has.**
>
> — HENRY LOMBARDI

Myer: It seems a little bit like where design-build was 15 years ago. Is that your impression as well?

Lombardi: I think in design-build there was more of an understanding that there would be a design team and a contractor that would work together. I think the issue here is still one of politics. The Elizabeth River Crossing Midtown Tunnel, which is a project that is supposed to go forward — it just came out that there's a political movement that wants to stop the project. Now whether they do or they don't, the issue is that somebody is trying to stop a project. If you look at many of these projects, some of them seem to get tangled up in some type of government or political agenda where somebody is trying to control what's happening, instead of saying, "This is in the best interest of society. We can add real value; we can bring an asset to the table that will not impede or hurt the taxpayers." But yet, there seems to be a pushback on that.

Myer: So, you feel that the political aspects are greater when it goes P3 than when it goes traditional design-build or design-bid-build.

Lombardi: That's my opinion. Others might disagree with me.

Myer: Maybe that's part of the Elizabeth River issue — that people are realizing that in order for these P3s to be successful, there has to be a separate revenue source.

Lombardi: If you ask the general population about P3s or privatization, I think that they believe that some foreign countries are going to come and take over an asset. We had that example on the ports when they were going to bid out one of the ports years ago. They really don't understand the concept that it's a net-net lease, and those people who are going to use that asset are going to pay for it versus the old system where everybody got taxed and whoever had the better political lobby got money for their projects.

I guess the question I would ask is, "Would you have gotten a concession team to build the Central Artery Tunnel in Boston? Would that have made financial sense for any concession team?

Myer: No. I can answer your question because I lived in Boston when they broke ground and approved it. The Ted Williams tunnel tolls are not sufficient to pay for $15 billion.

Lombardi: That, for me, becomes a political agenda. Tip O'Neill pushed and pushed and lobbied to get something that really the whole of society has paid for, and yet, very few benefits were gotten from it. That versus the privatization model, where business comes in and makes a business case for what value-add this will bring. Will there be enough economic cash flow to make it a viable project?

Myer: You're absolutely right — whether it's the HOT lanes or the Elizabeth River crossing. So in some ways what you are saying is there is a bit of a limitation. The HOT lanes in Virginia were clearly something that people absolutely knew needed to be done, where it seems that with the Elizabeth River crossing there is a political groundswell against paying the tolls they will have to pay.

Lombardi: Right. So they are going to build it with taxpayer's money and keep the toll artificially low, so they can charge the taxpayers to pay for the construction of the project versus "What is the economic benefit?" and "Is this a prudent investment for business?"

I'm a firm believer that privatization makes sense, but I think that we need to educate society that this is a viable way of rebuilding our infrastructure. You can't keep putting gas taxes, etc. on whatever you want and think that's going to be enough to pay for these projects. Let's be honest, some of these projects become pet projects of whomever is in office at the time and who has the political clout to move dollars to their areas.

> **The issue becomes a political agenda where politicians have get behind it and say, "Hey, this is a great thing — we have to do this."**
>
> — HENRY LOMBARDI

Myer: It's a very political process, isn't it?

Lombardi: We have an infrastructure that needs to be redone. I've been involved in construction for the better part of 25 years, and honestly, when you realize what has to be done, such as our bridges, and if you look at Europe — Europe basically rebuilt itself 50 years ago. We have structures that are more than 100 years old that have not been rebuilt, like the bridges in Manhattan. How are we going to get those done? I think what has to happen is we have to get people to understand that this is in their best interest.

Myer: It may take another bridge collapse for people to realize this.

Lombardi: I hope that doesn't happen — that's something we don't want to see. The issue becomes a political agenda where politicians have to get behind it and say, "Hey, this is a great thing — we have to do this."

Myer: One of the things that Andrew Cuomo did was focus the different labor union pension funds into investing, at least partly, in something like this, so that it was easier to get buy-in from the unions and to get buy-in from a source of funds that need long-term investment. What are your thoughts on that?

Lombardi: If you look at all of the money we have in pension plans throughout the United States, I think that if the modeling works, it's a great way for our aging society to look at a stream of revenue that would be consistent for investments. It would almost be similar to a tax-free bond — if you know that this asset could return 4% or 6% and you can pay the pension plan 4% or 3.5%, I think that's a very interesting approach. I think people would look at that very positively. Again, we're not there yet — we haven't gotten to that turn in the road where people understand that.

Myer: When Andrew Cuomo came out with that, that was one of the first times I had seen a politician link the labor union pension funds with work to be done.

Lombardi: I'm impressed with Cuomo because he seems to be making the right decisions. I'm not so sure that he's as lined with his party as he is with trying to make a difference and trying to position himself maybe wherever his next move is. But he is realizing that it's bigger than, "I need to make the unions comfortable so they'll vote for me — I need to do what's right for New York."

Myer: That's a really good point. Do you have any parting thoughts or comments?

Lombardi: America has come through a very difficult economic time and is still not out of it. But you do not want to repeat the errors of the past, and you have to look at changes on how we are going to move our society forward. I think that privatization is one of those game changers that really can move us in a better direction than where we are going.

FMI thanks Henry Lombardi, Geoff Delisio and Nancy Simonson for their insights on the P3 market in the United States in the upcoming few years. ■

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Twelve Essential Roles for CFOs in 2012

The CFO is often the last line of defense in avoiding crippling errors and omissions and is the driving force for positive changes to enhance productivity.

By Lee Ackerman and Ken Roper

The economy is driving all contractors toward highly sophisticated financial management to survive the slowdown and succeed in the construction industry. The competitiveness in the industry is forcing decisions that border on financial insanity. Does your organization excel at financial management? Is your CFO providing economic guidance for your organization? What are crucial roles for CFOs in the construction industry?

Now more than ever, CFOs possess extensive financial skills and capabilities beneficial to the construction industry. Effectively implementing the right roles, combined with exceptional performance, helps contractors create a competitive advantage. CFOs are smart, hard-working and dedicated managers who have many attributes that may be leveraged through training and development. These leaders and managers set standards, provide credibility to outside parties, and interface with owners and managers with respect to the operational aspects of the business. The key roles a CFO can play increase asset values and mitigate liabilities, adding significant value to any contractor (See Exhibit 1). How can your firm capitalize on your CFO? This article presents 12 essential roles and best practices to leverage your CFO's value in your organization.

Exhibit 1
CFO Essential Roles: Improving Strategic Leadership to Increase Organizational Value

BUSINESS PLANNER AND STRATEGIST

Financial road maps and economic modeling include setting priorities to provide guidance to operational execution. The CFO must be forward-thinking, particularly regarding cash flow management. Without effective cash flow management, the contracting firm will not survive. The CFO must master the incremental economics of the business. In a cost-based pricing industry, the CFO holds the key to success or failure since the margin for error is only plus or minus 2% on average in construction. Pricing models and participating in the selection of customers, services and delivery methods represent key strategy choices for contractors. Selection of the wrong project or customer results in the "bad jobs" all contractors experience, costing horrendous losses for this industry. Your CFO is the gatekeeper to prevent bad jobs from happening in your firm.

Input from the conservative voice and risk manager in the financial area adds greater depth to the decision making that all successful contractors value and utilize. Because there are so many unknowns in project execution and numerous variables in delivery of construction projects, combined with the thin margin of profit, the selection of owners and the "right jobs" are imperative for success. The market bias toward selection of the low bidder and the significant number of competitors willing to compete on price significantly increase the risk. As a steward of the financial model, your CFO has to know when to draw the line and maintain margins of safety for profitability preservation. The margin of safety and the accurate timely financial control from the accounting processes provided during the life of a contract are assets to any project team. Your CFO is the vital agent responsible for development of financial modeling and for subsequent monitoring and control of the project execution processes.

SCOREKEEPER

The CFO has ultimate responsibility for timely, accurate financial reporting for both internal and external users, and the best CFOs master this responsibility. The construction industry has specific reporting methodologies and practices, which are unlike most other industries. Construction contracts serve as profit centers where revenues are recognizable on estimates of contract profitability. In most cases, profitability from these estimates flows through the income statement each month. Construction accounting (percentage of completion on uncompleted projects) matches the economics of the earnings with the costs associated with those earnings on a monthly basis and changes in job profitability affect the income statement on a monthly basis. Earnings and costs are distorted when scope of work changes occur and change orders are not approved. Costs continue for the differences in scope of work without associated contract earnings.

Estimates that are constantly changing drive the information used to produce financial statements. These changing conditions mandate that the construction CFO be an astute evaluator of data.

While the accounting for construction contractors makes sense under the circumstances of long-term contracts, it creates a challenging environment for the CFO and others involved in the accounting process, including construction project managers. Estimates that are constantly changing drive the information used to produce financial statements. These changing conditions mandate that the construction CFO be an astute evaluator of data. Project cost estimates are prepared prior to beginning a contract and fluctuate from that point through completion of all of the contract work as scopes change, as anticipated production rises or falls, and as contemplated prices from suppliers and subcontractors rise or fall. The construction contract scope of work is subject to change due to changing owner requirements, changed working conditions and unanticipated events during the build-out. Optimistically, the large majority of scope changes will result in positive changes to the contract amount. Other changes have a less beneficial effect. The CFO's responsibility is to analyze the estimates and other assumptions from project teams being used to predict the outcomes of projects and to separate logic from pure speculation.

Reporting results for the month, quarter or year gives the CFO significant opportunities for analysis. Comparing the numbers in hand to the prior corresponding time periods and to expectations, such as budgets and projections, with variances identified, allows for the CFO's analysis and discussion of operations, financial position and likely cash flows. This analysis is generally a written explanation of unusual items in the income statement and balance sheet that provides insight to what is occurring and affecting the financial statements. The CFO is the financial expert and is the person most qualified to provide and interpret the key impacts on the financial statements.

ACCOUNTING TECHNICIAN

The CFO must be an expert in applying generally accepted accounting principles (GAAP) that pertain to the construction industry. Financial statements are valuable only if accurately presented. Additionally, one of the most important uses of financial data is benchmarking — providing useful comparisons against the industry. Furnishing accurate financial statements that are reliable to bankers, sureties and internal users is paramount. GAAP is an evolving proposition and has had an accelerating rate of change in the last several years. Accounting standard setters are in the process of GAAP for the United States to be consistent with accounting practices used internationally. Three key changes are currently being considered that will significantly affect the construction industry. They are the methodology for recognizing revenues, accounting for leases and accounting for liabilities in multi-employer plans. The CFO must not only be aware of current requirements, but also anticipate changes likely to come. The effects of those standards on the company's reporting will be substantial, and the impact on banking and bonding relationships will hinge on successful foresight.

Several provisions in the Internal Revenue Code are sections (laws) applying specifically to contractors. While extremely complicated, there are a variety of potential benefits and pitfalls in applying income tax law. Some of the laws apply at the company level, such as choosing the most advantageous accounting or revenue recognition method, and some apply at the contract level, such as determining that a particular contract is a home construction contract. Understanding the impacts of the tax-accounting treatments available for equipment purchases can greatly influence the cash-flow analysis of investment decisions. Although outside advisors are available in the form of your outside accounting firm or other consultants, success in identifying issues and making the correct ultimate decisions depends upon a diligent and proactive CFO.

While extremely complicated, there are a variety of potential benefits and pitfalls in applying income tax law.

SYSTEMS ADMINISTRATOR

Growth can strain systems, procedures and staffing capabilities. The accounting and administration for construction contracts is an onerous task with enormous amounts of detail and complexity. Change orders, for example, are constantly taxing organizations for pricing, approval and payment. Some contracts may have hundreds of change orders. A compounded annual growth rate (CAGR) of 10% doubles the size of a contracting business in 7.2 years. A fully functioning system that works effectively at $100 million may be inefficient and ineffective at $200 million. People who were competent at lower volume levels may exceed their competencies at the higher volume levels. In the construction industry, this pace of growth is not unusual. The exception is the current recessionary period, but the question becomes more relevant as the industry begins to recover. Planning and developing the software, hardware, document flow and support staffing in an organization requires constant diligence. Technology developments only compound these challenges.

CFOs are proactive risk managers, constantly vigilant to avoid unnecessary liabilities. Financial management is managing risk.

CFOs are at the center of all these practices. The CFO ensures that practices remain efficient and effective in light of current activity levels. The choices of software and hardware packages support capturing transactions and operational practices. Compliance with procedures is also important. The very essence of higher productivity is consistency of procedural execution. Variability is the enemy of productivity. CFOs not only select and implement systems, but also ensure that people in the organization comply with best practices put in place.

The administrative support staffing must also be adequate and competent to maintain organizational administration. The best CFOs recognize that they do not have to master all of the disciplines to achieve effectiveness, but they have to identify and select the right talent. They constantly evaluate staffing and make the necessary additions and changes. The CFO should never let the administration fall behind the operational needs of the organization.

RISK MANAGER

CFOs are proactive risk managers, constantly vigilant to avoid unnecessary liabilities. Financial management is managing risk. Risk is a cost driver and comes from several sources, such as safety, contract provisions, relationships with employees, customers (owners or general contractors), subcontractors, vendors, bankers and sureties. The first steps in risk management are identifying and analyzing sources of risk so that they are manageable. Insurance is a tool in the risk management arsenal, but the transfer of risk by insurance coverage is generally the most costly alternative. Other risk management techniques include risk avoidance and loss control. The primary defense against the consequences of risk is avoidance through advanced planning, coupled with procedural compliance.

Proactive safety management programs can generate significant cost savings through reductions in insurance premiums, diminished lost time from accidents and injuries, and avoidance of legal costs and disruptions caused by claims. Most insurers serving the construction industry offer ongoing safety training as a supplement to training from other sources.

Contract analysis identifies the most significant risks in any given contract. Pricing contract risks fairly into the cost of the work is one method to manage risk. Understanding contract terms and conditions and having open and consistent communications of those items among project personnel, are imperative to effective risk reduction.

Effective communication is the underpinning of relationship management. Recognizing issues and open, honest and prompt communication to all parties involved help to avoid escalation of resultant negative consequences. The CFO is often the company's voice and, with the project team, is a key to successful project completion that meets targeted profit objectives.

LEADER AND MANAGER

CFOs are effective leaders and managers. Leadership and management are two different skills. Leaders set direction and align and motivate people while managers plan, organize and control the environment. Most of the CFOs in the construction industry tend to have stronger skill sets in the managerial area. Their background and training build depth in the managerial practice disciplines of planning, organizing and controlling. Those skills are a significant asset and resource to an organization because all organizations require planning, organizing and financial control. CFOs tend to have less operational experience, and their focus is narrow in scope, more managerial in nature. The operational focus of the CFO role can limit leadership skill development.

Where a CFO has evolved as the leader and CEO, he or she tends to excel because of the balance of risk and reward that CFO brings to the organization. The type of leader who balances risk and reward is more likely to build a successful contracting business. The industry itself is mature and loaded with competition. Some competitors in the industry exist without a business purpose. Return on investment, stock appreciation and other monetary incentives are foreign concepts to these firms. The more progressive firms today are investing in training to build both skill sets of managers and leaders. Coaching and development programs are focusing on growing the next generation of these managers and leaders, including those who aspire to become CFO.

CFOs are effective leaders and managers. Leadership and management are two different skills. Leaders set direction and align and motivate people while managers plan, organize and control the environment.

COMMUNICATOR

CFOs who excel are great communicators. Communication skills contribute to the success of any leader or manager. Many construction industry executives have little, if any, formal training in communications. What to communicate, how to communicate, methods of communication, confrontational skills, negotiating skills, salesmanship, mediation skills and other important communication abilities are, for the most part, skills learned through on-the-job training by managers and leaders. CFOs must deal with the economic reality of the organization. The CFO needs to be able to confront difficult situations and follow through to gain understanding of the economic reality. This determination of reality sometimes is unpopular and can cause significant internal friction. "Kill the messenger" reaction has caused the demise of more than one CFO. There is a delicate balance between being approachable and being susceptible to manipulation. Being approachable is both acceptable and highly desirable in resolving complex transactions that arise during the construction process. Allowing oneself to be manipulated by operational managers is never acceptable. Stakeholders rely on the accuracy of the financial reporting process.

> **The CFO requires a high emotional quotient (EQ) for effectiveness. People skills are some of the best and most value-adding abilities managers and leaders have in their arsenal.**

The CFO requires a high emotional quotient (EQ) for effectiveness. People skills are some of the best and most value-adding abilities managers and leaders have in their arsenal. Building work groups that deal with and manage the voluminous level of detail in the accounting process is vital for CFOs. High turnover causes excessive cost and disruption to the accounting process. Staffing is constantly increasing for growing construction organizations. Methods and systems for all types of communication require constant attention to enhance sharing of information. Little, if any, time and fewer resources are devoted to this important aspect of operations. The challenge becomes just keeping up with one's day job, let alone any time for leadership messages and sharing of direction so important in organizational growth and development.

CUSTOMER SERVICE MANAGER

Customer service for CFOs is easier than it appears. The right questions are "Who are my customers?" and "What are their needs?" CFOs who are effective have answers to both questions and are responsive to internal and external users of financial information. Constantly seeking input from the users allows the CFO to adjust reporting practices, systems and procedures to accommodate the users. CFOs who monitor and measure their success on delivery and customer satisfaction

Accountants have their own unique language that all accounting types understand. The issue is that the accountant's language is not user friendly to the nonfinancial manager.

find increased satisfaction in the roles they play in organizational success.

As with any service, technology changes, rule and regulation changes, growth and a number of other external factors can alter the customer service component of the business to its end users. CFOs who keep flexible and stay on top of market developments always have an easier time adjusting to changing market conditions. The inflexible manager who has done things the same way for the past 30 years will find his or her service and relevance in the modern contracting firm of little value.

The CFO who views the CEO as his only customer worth servicing is providing both a disservice to that CEO and a liability to the organization at large. Such a view generally comes coupled with a corollary of "Catch 'em doing bad," when it comes to the operational managers of the company. That CFO is emphasizing ambush rather than arming the company's managers to work more effectively. Such a CFO would do well to take an extended course in the "Leader as Servant" philosophy … or find other work.

EDUCATOR AND TRAINER

CFOs who can paint clear pictures of the financial picture and communicate financial performance to nonfinancial managers are valuable assets. Accountants have their own unique language that all accounting types understand. The issue is that the accountant's language is not user friendly to the nonfinancial manager. Course after course has been presented on financial management for the nonfinancial manager with limited success. What is needed is the customer-service approach mentioned earlier to present financial information in ways those nonfinancial managers understand. The financial people in the organization should take responsibility for educating the operations personnel on financial reporting for contracts as it relates to their role in project management.

Over time, the balance of training and educating users creates a consistent understanding of financial practices in the contracting organization. As important as the concept is, few, if any, project personnel receive sufficient training from colleges and universities on financial reporting practices for contractors. With technology, graphics allow financial departments the ability to "paint the picture" for the operations personnel. The better the understanding, the more effective the systems and decisions that support excellent financial management practices will be in the end.

TECHNOLOGY INNOVATOR

Technology comes at a high cost, but not having the proper technology and supporting structure drives up the cost of doing business substantially more. Because of the dollars involved, the CFO typically has substantial input, if not final authorization authority, over the selection of an IT system or determination if an IT system needs replacement. As with most aspects of the construction industry, IT decisions are important elements of sound risk management. CFOs must understand the risks, whether they result from within the company or from outside sources. Internal risks consist of company culture, technological sophistication of personnel, system selection, implementation, training and support as well as the suitability of hardware infrastructure expected to accomplish tasks. External risks consist of natural disasters, external service providers, malicious attacks and other threats beyond the company's control.

Common risk management and mitigation approaches, such as risk-cascade modeling, heat mapping and scenario planning, among others, can be used to identify risks, evaluate the likelihood of occurrence and consider the significance of the consequences. These techniques place the focus of efforts on the highest value targets. Decisions such as the level of internal administration versus outsourcing; cloud computing versus internal data management; document management solution alternatives; and tasks, such as developing a disaster recovery plan, are all products of appropriate analysis.

LEGAL COMPLIANCE OFFICER

CFOs are part-time lawyers. Laws of some jurisdictions, if not multiple jurisdictions affect almost any action taken by a contractor. Contractors deal with income taxes, sales taxes, contract provisions, employment law, Davis-Bacon and other government contract requirements, among other laws and regulations on a daily basis. While the wise contractor consults with legal professionals, as needed, much of the day-to-day common sense applications of legal requirements are left to the CFO.

While the wise contractor consults with legal professionals, as needed, much of the day-to-day common sense application of legal requirements are left to the CFO.

While income tax law is primarily determined by larger decisions, such as choice of entity, domiciles and other far-reaching determinations, actions taken on the contract level can have significant consequences. These include decisions to work in other states, performing work on contracts that have special income tax treatment and contracting with governmental agencies. Sales tax laws are determined at not only the state level, but also the municipality and other local or district levels. To understand cash flow from a contract, the CFO has to understand the tax effects of contracts along with impacts of other decisions.

Contract terms generally include requirements and timing for payments, change orders and submission of claims. Government contracts have even greater compliance requirements. All of these items have the ability to affect the cash flow, and possibly profitability, on a contract when provisions are disregarded. Often, project personnel are focused on building the job, rather than administrative requirements of the contract. The CFO has primary responsibility for some aspects of the contract, such as Davis-Bacon compliance, and has compliance oversight responsibilities for other contract requirements..

MORAL COMPASS KEEPER

The cultural foundation for organizational ethics and internal controls is often called "tone at the top." As a company leader, the CFO is looked upon to guide the organization with suitable values and ethics. In this position, value comes primarily from two sources, your knowledge and skills, and your integrity. As a successful CFO, the old adage "figures lie and liars figure" can never be associated with you. As important as it is to be honest with everyone, it is most important to be honest with yourself. Next, it is vital that you are honest with those who are relying upon you to provide valid information that will inform their decisions.

Financial reporting for contractors involves significant estimates, more so than most industries. Manipulating numbers and estimates is easy for a short time. Many financial statement manipulations are well-intentioned and rationalized with logic such as "We will make up the cost overruns with future cost savings." Although entered into with good intentions (smooth earnings so as not to upset the bonding company or banker, etc.), the foundation for the manipulation is inherently dishonest. Dishonesty at the top has a trickle-down effect to subordinates. The company culture becomes one of manipulation and "tell them what they want to hear," which has never been the road map to success. The CFO is willing to face the consequences and rewards for the economic reality of the firm and does his or her best to present the financial picture accurately.

CONCLUSION

The CFO's responsibilities cross virtually every aspect of a construction organization. The CFO is often the last line of defense in avoiding crippling errors and omissions, and is the driving force for positive changes to enhance productivity. The position requires breadth and depth of skills as well as management and leadership abilities, and is extremely challenging in all economic environments. As most CFOs rise through the accounting function, training and development are integral to successfully fulfilling the variety of requirements of the position. Successful CFOs have the intelligence, drive and dedication to discharge their responsibilities.

Leadership is challenged to provide an environment that values the roles CFOs play. Opportunity for advancement is necessary for talented CFOs, and this includes exposing CFOs to operational responsibilities, management succession and work acquisition aspects of the business. Greater opportunities allow intellectual advancement and increasing contributions to organizational success.

The CFO is often the last line of defense in avoiding crippling errors and omissions, and is the driving force for positive changes to enhance productivity.

How does your CFO perform in these 12 crucial roles? Are there indications of personal growth? Is he or she appropriately rewarded?

If you are the CFO, what goals and action plans should you set for personal growth? ■

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Financing Energy Efficiency Projects

There is no more important work being done in American infrastructure than energy efficiency.

By David Clamage and Tim Huckaby

Buildings use more than 70% of the electricity generated and more than 40% of the natural gas used in the U.S. The existing U.S. building stock is extremely energy-inefficient. The DOE's Energy Information Agency estimates that 30% of energy used in commercial buildings is wasted. In a 2009 report, McKinsey & Company estimated that energy savings worth $1.2 trillion are available if the full amount of economically viable and commercially available energy efficiency projects is implemented in the U.S. through 2020. Achieving these savings would require an upfront investment of $520 billion.

Of course, not all economically viable and commercially available energy efficiency projects will be built, and it will take a number of years to approach the deep market penetration referenced in the McKinsey study. At the same time, energy efficiency technologies and applications are advancing at a rapid pace, resulting in an ever-growing market. As is often said in the industry, energy efficiency is the "low-hanging fruit that continues to regrow."

The estimates of the current size of the annual building energy efficiency market vary depending on the definition of the market measured, but all studies indicate that the market is large and growing.

The estimates of the current size of the annual building energy efficiency market vary depending on the definition of the market measured, but all studies indicate that the market is large and growing. Using a narrow definition of the traditional Energy Service Company (ESCO) market, Lawrence Berkeley National Laboratory (LBNL) estimates it at approximately $7 billion in 2011. This narrow definition does not include companies such as engineering and architectural firms, HVAC, lighting, windows or insulation contractors, and consultants that offer energy efficiency services but typically do not enter into long-term contracts that link compensation to the project's energy savings and/or performance. Using a broader definition of the market, which includes the types of entities excluded from the LBNL report, FMI estimates the market at more than $20 billion in 2011. Regardless of the starting definition of the market, all studies point to continued growth over the next several years, most often 10% or greater. FMI's current estimates show about a 15% compound annual growth rate through 2020.

Even with such a huge and obvious value-creation opportunity, certain obstacles limit the growth of this market. Typical growth constraints cited include:

- Lack of awareness and focus on energy efficiency opportunities
- Skepticism regarding the economics of energy efficiency opportunities
- Unduly complex, nonstandardized and expensive transaction structures
- Scarcity of skilled project development talent
- Lack of prepackaged, simplified project funding — particularly in the commercial real estate (CRE) sector
- Split incentives (e.g., in certain situations when a building owner, who will incur the retrofit capital expenditure, is not the building occupant, who will benefit from reduced operating costs)

Companies that lessen any of these constraints to the building energy-efficiency retrofit market should grow quickly and capture strong profits.

This article focuses on the project financing constraint mentioned above and how companies can work with third-party financiers to deliver a prepackaged financing solution to clients. More specifically, it will look at the project financing markets for four building energy efficiency retrofit verticals — federal, MUSH (municipals, universities, schools, hospitals), institutional, and commercial and industrial. Projects in each of these markets are financed differently.

A FINANCIER'S PERSPECTIVE OF ENERGY EFFICIENCY PROJECT FINANCING

Most energy efficiency retrofit projects funded by third-party financiers are considered performance contracts since the ESCO provides some form of guarantee regarding the energy savings (in units of energy, not dollars) that will be generated by the project.

The value proposition of a performance contract is simple. The net present value (NPV) of energy and operating savings, plus any rebates or incentives, must equal or exceed the total costs of the retrofits (i.e., the project must have a neutral or positive NPV). In essence, the upfront costs of Energy Conservation Measures and Facility Improvement Measures, plus the financing and certain other costs are "repaid" from the energy and operating savings, rebates and incentives generated by the project. As a practical matter, most projects are designed to be "cash-flow-neutral," where the savings, rebates and incentives pay the principal and interest arising from the lease, loan or other financing structure used to fund the project. A simplified cash flow model for a theoretical $1 million energy efficiency retrofit project is shown in Exhibit 1.

There are numerous rebates and incentives as well as government and utility policies that must be considered when developing performance contracts. The website www.dsireusa.org, maintained by North Carolina State University, provides examples. The key is to reach out to the governments, utilities and Non-Governmental Organizations serving the applicable market. Learn how their programs work and approach the market with full knowledge incentives, rebates, policies and programs.

Exhibit 1

Simplified Energy Efficient Retrofit Cash Flow Analysis — $1 Million Project

Dollar Thousands

	Year 1	2	3	4	5	Total
Retrofit Benefits:						
Utility Cost Reductions	155	160	164	169	174	823
Tariff Reduction	15	15	16	16	17	80
Operation Cost Reductions	35	36	37	38	39	186
Construction Period Savings	22					22
Rebates	70					70
Total Retrofit Benefits — *Cash In*	**297**	**211**	**217**	**224**	**231**	**1,180**
Retrofit Costs:						
Annual Lease Payment	(260)	(197)	(203)	(209)	(216)	(1,086)
Annual Maintenance	(10)	(10)	(11)	(11)	(11)	(53)
Total Retrofit Costs — *Cash Out*	**(270)**	**(207)**	**(214)**	**(220)**	**(227)**	**(1,139)**
New Annual Cash Flow	**27**	**4**	**3**	**4**	**4**	**41**

Source: Saulsbury Hill Financial, LLC. Illustrative example only.

Financiers consider a number of risks when evaluating and structuring financing for performance contracts. The most basic risks include:

- **Credit-Worthy Client** — Is the client (the project host) financially capable of making its payments on the project? Is the client in a "financeable class" in today's capital markets?
- **Credit-Worthy ESCO or Contractor** — Is the ESCO or contractor financially capable of completing the project and standing behind its savings guarantees? Does the ESCO or contractor have the skills and financial stability commensurate with the project?
- **Quality Design, Construction, Operations and Maintenance, Measurement and Verification** — Does the project use proven technologies and applications, and is the estimated savings reasonable? Does the ESCO have a strong reputation and deep experience in delivering similar high-quality projects? Are the operations and maintenance and measurement and verification plans for the project appropriate?
- **Adequate Project Economics** — Are the projected cash flows for a project accurate and appropriately conservative? Does the project generate sufficient energy and operating savings to repay the financing within an appropriate time?
- **Properly Documented Project** — Are all legal documents adequate and in place, including a strong performance contract? Are risks and scopes properly allocated among the contracting parties? Are energy savings clearly defined?

Unlike traditional retrofit or replacement financing for mechanical and controls systems, the biggest difference for the lenders providing financing in this market is the guarantee of savings and the performance of the Energy Conservation Measures and Facility Improvement Measures installed. Of course, lenders are not engineers, so they have a strong preference for ESCOs and contractors that have (1) a long history of successful projects and demonstrated technical competence and (2) the financial wherewithal to support the project and related guarantees. Furthermore, well-planned and deployed protocols for operations and maintenance and measurement and verification are imperative, given the long-term payback of these projects.

Well-planned and deployed protocols for operations and maintenance and measurement and verification are imperative, given the long-term payback of these projects.

ESCOs and contractors who properly address the above risks when approaching project financiers will be positioned to obtain the best financing options available in the market for their clients.

ENERGY EFFICIENCY PROJECT FINANCING FOR VERTICAL MARKET SECTORS

Federal — The market for financing federal government performance contracts is established and well-defined, resulting in accessible capital for qualified projects. Projects are financed with 100% debt. The client (U.S. government) is one of the most credit-worthy counterparties available worldwide, and the projects use government-approved, standardized contracting vehicles under various federal government programs administered by the Federal Energy Management Program (FEMP). Awardees under these federal programs that develop good projects and have a strong reputation should have access to financing in this market.

Federal Energy Efficiency project options are limited for those providers who are not qualified under FEMP. Nonqualified entities can work as subcontractors to other entities that are on FEMP's list. A firm can become a FEMP-qualified ESCO through a somewhat extensive application process.

MUSH — The MUSH market relates to projects for state or local government-owned facilities. These include municipal buildings of all types, state universities, community colleges, K-12 public schools, public hospitals and the like. Energy efficiency project financing for the MUSH market is well-developed, and projects are typically financed with 100% debt or lease structures. Clients (project hosts) are typically good credits, and projects are generally developed under government-sponsored contracting programs.

The MUSH market differs from other markets in that tax-free municipal financing is often used. Tax-free financing lowers the borrowing cost since the holder does not pay federal taxes on the interest income. Rates are similar to those in the muni-bond market.

Similar to the federal market, ESCOs often need to be certified or accredited awardees under state programs or otherwise qualified under state or local programs in order to participate in these markets. Programs and participation rules differ by state.

Institutional — The institutional market refers to large, private (as opposed to government-owned or affiliated), noncommercial entities, such as private universities, private hospitals and research institutions. These entities often have strong credit ratings, sizable infrastructure and significant needs for EE and infrastructure improvements. Financing markets are fairly well-developed, and the majority of the financiers to the federal and MUSH markets also provide capital for institutional projects. As noted, the client's credit must be strong, the ESCO must be reputable, and the project must be well-formulated and documented.

Commercial and Industrial (C&I) — The C&I market is generally considered to be the largest potential and most underpenetrated building efficiency market. The current lack of abundant, prepackaged, low-cost and efficient financing solutions is the greatest barrier to growth in this market.

The C&I market actually functions as a number of smaller markets, and the approach to each submarket differs. At the low end (i.e., projects in the thousands to tens of thousands of dollars for small businesses), utility-sponsored demand side management (Utility DSM) programs are proving to be effective. Under these programs, small businesses receive rebates and incentives from the utility that significantly reduce the project payback periods, increase the financial returns and generally make it easier for a small business to implement efficiency measures. Some utilities also offer on-bill financing, providing the client with a prepackaged loan for the retrofit.

At the high end (i.e., projects in the hundreds of thousands to millions of dollars), no widespread, generally accepted financing model is dominant. Many entities are simply paying for the retrofits out of their capital expenditure budgets (whether financed through corporate loans or cash on hand). Of course, many fewer projects are getting done via this "client pay" approach than would be completed via a prepackaged, attractive financing solution.

One promising potential solution is Property Assessed Clean Energy (PACE) financing. Under PACE, a municipality issues long-term bonds and then makes the funds available to certain qualified constituents (i.e., commercial buildings, industrial facilities, etc.) for qualifying energy efficiency projects. The cost of the project is added to the client's tax bill. This structure provides long-term, low-cost financing for value-generating efficiency projects. One current issue with PACE is that first mortgage holders object to new claims (i.e., the cost of the EE project) being senior to the existing mortgage lender's claim (which occurs when the tax bill is increased). As a result of this and certain other issues, PACE has not yet become a widespread financing solution.

Another potential structured solution is to form an investment fund that holds a portfolio of energy efficiency projects. The investment fund is financed with a blend of equity (acting to "credit enhance" the portfolio) and debt blending down the cost of capital. By holding a portfolio of projects, the fund can aggregate projects and "make bulk," diversify its holdings and "age" its portfolio of projects, thereby allowing access to cheaper capital and even selling off a bundle of projects. A similar approach is used in many other mature industries.

We expect the C&I energy efficiency retrofit market to grow rapidly as PACE programs, energy efficiency funds or similar financing solutions become more available.

CONCLUSION

The market for energy efficiency retrofits in U.S. buildings is large and growing rapidly. One material constraint on growth is delivering clients a prepackaged financing solution. Financing in each market — federal, MUSH, Institutional and C&I — works differently. Nonetheless, the core attributes sought by financiers are similar across markets — credit-worthy client, credit-worthy ESCO, quality project, good economics and proper documentation.

Working with the right project financier is imperative to success in this market. A list of performance contracting project finance firms can be found at the websites for the National Association of Energy Services Companies (www.naesco.org) and the Energy Services Coalition (www.energyservicescoalition.org).

There is no more important work being done in American infrastructure than energy efficiency.

There is no more important work being done in American infrastructure than energy efficiency. Working with a capable and experienced project-financing partner allows ESCOs to deliver larger and higher-value projects for clients and, in the end, get more work done. ■

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Doing What You Promised, On Time

As you roll out customer satisfaction initiatives, take a page out of the playbooks of companies in the service industry.

By Stephen Boughton

So many people are urging contractors to refrain from defaulting to the tag line "on time, on schedule and on budget," that talking about it has almost become a cliché in its own right. Make no mistake, the advice still stands. The real question is, "How does a construction company demonstrate a real and higher-order understanding of, and commitment to, a client's needs, not just lip service?"

The answer lies in proactively managing customer service — the third and final "piece" of the business development jigsaw (alongside marketing and sales), and the one which is so often taken for granted. Executing and delivering a project is where contractors feel at home. After all, this is where the rubber hits the road — where we get a chance to do what we do best, build something. It is the other two "pieces" of the jigsaw that are seemingly so foreign and pose the greatest challenge to most companies — handling the "black art" of marketing and efficiently managing our resources to nurture leads, develop selling propositions and close deals (i.e., sales).

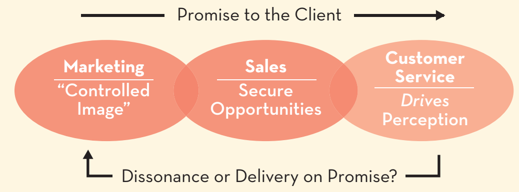
The reality is all too often very different. While customer service is the easiest and most tangible component to grasp mentally, only very skilled contractors do a great job of truly bringing the concept to life within their organizations. Faced with today's pressure on margins, it is easy for employees to focus on production, not on customer service.

Customer service deals with delivering value to the client to ensure both success on today's project and winning the next. This service needs to happen 100% of the time. Your customer service process is what your field, project management and administrative functions are doing to ensure the clients get everything they have been promised in both the contract requirements and the procurement process (i.e., "sales promises").

What are the rewards of getting customer service right? The answers are obvious: increased customer retention, positive word of mouth, improved reputation in the marketplace and opportunities for increased revenues. The flipside results are no more complex when poor customer service is provided.

Highly successful contractors create distinct linkage among the three components of business development (sales, marketing and customer service) and make the process real for those who promise — and those who must deliver what is promised to your client (see Exhibit 1.) We can control the messaging during the work acquisition phase, but any perceived "service quality gap" in the delivery phase creates dissonance between the client's understanding of what has been promised and the reality of its perceived delivery.

Exhibit 1
Components of Business Development



There is the heart of the issue, how your perceived ability to deliver directly impacts your brand — the outcome of what you say versus what you do. Although you might like to believe otherwise, the reality is you do not have complete control over the brand. Your brand lives in the minds of your clients, competitors, industry influencers, employees and others. Though the name and logo belong to you, what they represent and the image they conjure are an entirely different issue.

SERVICE QUALITY GAPS

Thinking through a service quality gap model is bread and butter to those who make their living in the service industry. Think of hotels, airlines, restaurants, banks and any other "true service" industry where service quality depends on so many variables. Employee action (or inaction), uncontrollable events, disgruntled customers, an uncertain service delivery — all of these impact whether the promise is matched in delivery. This all adds up to "heterogeneity" — the ever-present variability that is a key difference in delivering services rather than factory-produced widgets.

Companies in service industries constantly seek to eliminate problems that can arise because of heterogeneity. Using service quality gap models, they seek to identify and find ways to close the customer satisfaction gap. By using the same approach, construction companies, too, can identify and isolate some of the key problem areas. Identification of specific gaps is a first step in mitigating service quality gaps.

A key factor to consider is the service interface line separating the customer and company (see Exhibit 2). To what extent is your project team considering the impact of its actions "above the line"? Contractors who do this well are those who have created a best-of-class customer service culture.

You can identify gaps through evidence supplied by customer surveys or through candid conversations, observations and discussion by experienced participants. Some typical gaps and underlying causes include:

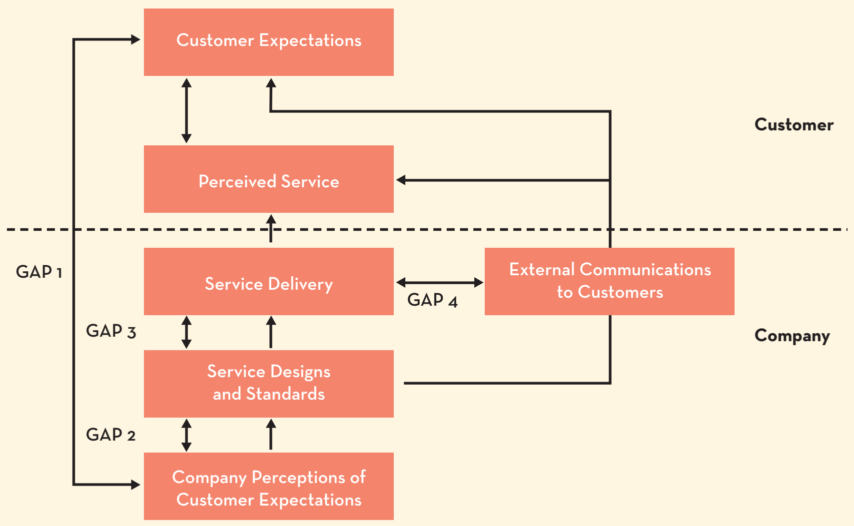
Provider Gap 1 — Not knowing and/or communicating what clients expect

- Failure to understand basic and higher-order needs during the work acquisition phase
- Failure to communicate known expectations to all individuals involved in the project
- Insufficient relationship focus — are we making the right "touches"
- Failure to understand the needs of other stakeholders — owners, community, architect, users, etc.

Provider Gap 2 — Having poor-quality designs and standards

- Poor process/service designs in general (billing, change orders, project updates)
- Absence of client-driven standards (something specific for this project, rather than our "usual" approach)
- Lack of physical evidence (appearance of our people, equipment, project site, etc.) that matches our desired brand

Exhibit 2
Service Gaps



Provider Gap 3 — Not delivering to defined standards

- Failing to deliver the promised paperwork, reports, etc.
- Deficiencies in our people, whether through lack of information, education or motivation
- Client's failure to fulfill its role by not providing the information we need to make decisions
- Problems with intermediaries and other stakeholders (other trades, consultants, advisors, etc.)

Provider Gap 4 — When promises do not match performance

- Simple overpromising, raising client expectations beyond our capacity to meet
- Inadequate internal cross-project communication
- Failure to manage ongoing client expectations
- Lack of ongoing client management satisfaction

Look back at a recent project and consider how many service quality gaps you can identify. Then consider how many of these gaps could have been avoided through a more methodical approach to improve customer service and therefore satisfaction. Many construction companies conduct detailed post-job reviews to assess how operational performance could be improved in the future, but how often does one take the same approach to improve customer service?

Many construction companies conduct detailed post-job reviews to assess how operational performance could be improved in the future, but how often does one take the same approach to improve customer service?

For companies that live and die in the service industry, these are questions they continually ask of themselves. How can we improve queuing efficiency, how can we reduce the time between order and delivery, how can we improve the customer experience, and so on. Should we not ask ourselves similar questions in the construction world?

ADDRESSING SERVICE QUALITY GAPS

Service quality gaps exist, but then what? How does a contractor demonstrate a real commitment to client needs, not just lip service? By default, the solution begins and ends with your people. The solution seems to be simple: instruct your employees to be "customer-focused" or "put the customers first." This approach is so general, so vague that it leaves the average employee wondering what those words really mean in practice. What is it that I am supposed to do differently, better, more frequently, not at all, more forcefully, more gently, etc.?

One successful approach is to break down concepts of customer service into manageable portions and then provide tangible examples or "sticky stories" to focus desired behaviors. Here are five dimensions of service quality (RATER, for ease of memory) that can be shared easily and adapted to fit your company. What would achieving high marks on "RATER" look like in your company?

Reliability

- Provide service as promised
- Handle client/project problems dependably
- Perform services/information right the first time
- Provide services/information at the promised time
- Maintain error-free records

Assurance

- Employees instill confidence in clients
- Employees are consistently courteous
- Employees have the knowledge to answer client questions or know where to go to find the answers
- Employees who handle surprises and crises calmly and with confidence

Tangibles

- Quality of equipment
- Visually appealing facilities
- Employees with a neat, professional appearance
- Good jobsite and field office housekeeping
- Maintenance of equipment at high standards of functionality, safety and appearance

Empathy

- Give clients individual attention
- Deal with client issues in a caring fashion
- Have the clients' best interests at heart
- Understand the needs of the clients
- Be open and available at all times

Responsiveness

- Keep clients informed as to when services will be performed
- Provide a decisive and prompt reaction
- Be willing to help clients
- Be ready to respond to clients' requests

POWER OF THE PEOPLE

The success of this approach rests on the capability and willingness of your people. The curmudgeonly project manager or superintendent who spends his or her time barking orders with a "my way or the highway" approach will likely consider talk of service quality gaps and RATER as "soft." In today's market, companies are looking for the secret formula that will edge out the competition and fill their backlog. The formula is no more than creating a relentless appetite for customer service in your people.

What strategies can you employ to achieve this renewed focus?

- Hire the right people. In addition to technical competence, select for service awareness and competency.
- Develop people to deliver service quality. Train for interactive skills and encourage teamwork.
- Provide needed support systems, such as supportive technology, equipment and effective internal processes.
- Ensure that existing and contemplated incentives reinforce the right behaviors. Eliminate those incentives that encourage counterproductive behaviors in your team members.
- Retain the best people. Treat employees as customers and measure and reward strong service performance.

Ultimately, a service culture is key to closing Service Quality Gaps. A service culture exists when giving good customer service is a natural way of life in the company and time is spent seeking ways to become ever better in delivering great customer service.

CUSTOMER SERVICE MAPPING

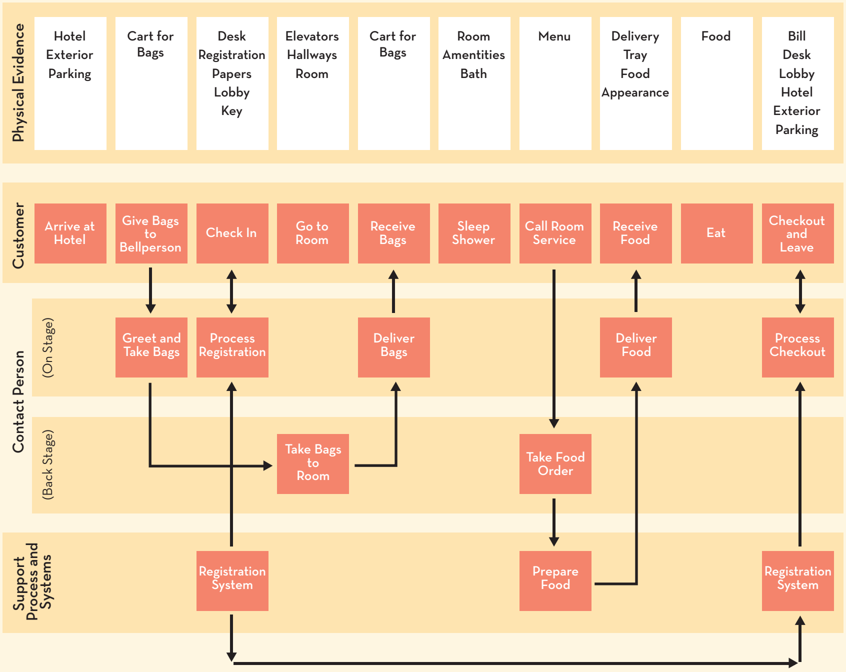
Exploring how a client is "touched" during the course of the project sets you on the right track. Understand the quality of the interaction from his or her perspective, not yours. Consider how a guest's experience is handled at a premium hotel such as the Four Seasons brand. The brand conjures up an image of a smooth, relaxed "Four Seasons experience." What appears smooth on the surface takes a great deal of time, effort and energy behind the scenes to ensure the result meets client expectations. It is the apparent calm of a swan, while beneath the surface, the legs are kicking furiously.

By developing your own process flow chart, you can document the optimal process for your work and identify possible Service Quality Gaps. Consider Exhibit 3, a simple process, which demonstrates the actions supporting a straightforward overnight stay.

There are four primary components in this process:

- Customer actions
- "Onstage" contact employee actions
- "Backstage" contact employee actions
- Support processes and systems

Exhibit 3
Process Flow Chart



The level of client interaction, client visibility and internal interaction (back of house) varies as the guest moves through the process, but all efforts should be aligned to achieve the best possible outcome. This is no different from a construction project, with its wide cast of characters on-site or supporting from the office. Yet how often do simple issues become huge headaches as a result of poor internal communication or lack of awareness of customer concerns? To make matters worse, rarely is the client represented by a single individual. More likely, many different entities are acting on behalf or in support of the client, including owner's representatives, in-house users, facilities managers, consulting engineers and numerous other stakeholders.

Developing and using this approach may appear to be an onerous undertaking. You do not have to map the entire construction experience with every possible interaction. An easy start is to bring together a cross section of employees from both office and field and spend time analyzing some of the key touch points in the construction process. Where are the key challenges, what are the most common items to fall through the cracks? After all, failures of communication between the field and project management teams are a constant source of gripe, frustrating for all involved. What is the impact on the client, and what can be done to smooth out or overhaul a step in the process to yield a more positive result?

Every interaction with a client, influencer or other stakeholder should be treated as a service encounter. Each encounter is a moment of truth and can be crucial in determining customer satisfaction and loyalty. How do we use these opportunities to build trust, reinforce quality, build brand identity and increase loyalty?

ACTIVE CLIENT MANAGEMENT

Determining "how we're doing" is key to identifying and addressing service quality gaps and potentially dissatisfied clients. Apparently, this is more difficult than it appears, evidenced by the large number of contractors who have not formalized a process for acquiring client feedback.

On one hand, you are concerned about being seen as needy or unsure of yourself. This can lead you to ask for little or no feedback, particularly during project construction. Perhaps you leave it all until project completion, on the basis that you do not want to encourage bad news and rock the boat while the project is under way. Perhaps you do not ask for formal feedback at all, because it is a "regular client who likes us."

All these options fail to acknowledge one simple fact. There is no one-size-fits-all approach when it comes to seeking client feedback. Some clients may want to provide monthly updates, others none at all; perhaps some leave feedback to project managers, while others want to communicate only at senior levels. The only way to determine the right approach is to discuss and agree to the options on the front end of the project — how often we will check in, who will do so, how formal, written feedback or verbal, and so on. At the very least, do not lose an opportunity to capture a positive client reference. Just as important, however, is learning of a service quality gap at an early stage. In addition, do not rely on those closest to the project to solicit the feedback. If they are neck-deep in the project,

CASE STUDY: Southwest Airlines and Customer Service

In the U.S. airline market, Southwest Airlines has long been touted as being the most successful at managing service quality gaps. For years, legacy airlines pursued customers on the basis of "full service," while Southwest focused on a low-cost carrier model, which seemed to resonate with customers. It is true to say there are many issues which impacted Southwest's success over the years — fuel hedging, use of nonunion labor and single-model aircraft fleet, to name but a few. While these impacts have a real cost impact, other aspects of Southwest's model were successful because of a focus on customer service.

Customer value starts with the customer

While this might seem obvious, many companies have built their service proposition around their capabilities and not customer needs. Service definition should start with the customer — which services do not improve service quality (and therefore can be removed) and which are highly valued by customers and may be added or expanded at relatively low cost?

The importance of people

Southwest Airlines recognized the importance of employees from inception. In a no-frills environment, there is little for customers to "consume" other than the experience with the airline's people. In a service environment, it is essential to recruit, train and nurture employees who buy into the service proposition that involves cross-discipline activities — flight attendants who clean planes, for example. Unwillingness to perform a variety of duties means frontline staff can become a cost burden and a liability, not an asset to the organization.

Manage customer expectations

Arguably, the most effective part of Southwest's strategy is carefully creating and communicating the "no-frills" value proposition to customers. If customers buy in to this contract from the beginning, and are under no illusions, then the opportunity to exceed expectations is created and even the good humor of the flight team becomes a "free" extra.

they are less likely to assess feedback in the wider context of the client relationship.

Remember those client expectations and how failure to reach them leads to a service quality gap? Well, why not make a big deal of those expectations and ensure they are communicated to all project team members. Posting a "customer charter" at the project site puts those expectations in plain view. Again, this moves you beyond "cost, quality, schedule" and focuses on conceivably softer, though highly important, issues; environmental concerns, access issues, respect for the nearby community, a client's value set. In one swoop, this act focuses your people's actions and at the same time broadcasts your intent to the client — a great marketing opportunity.

As with many concepts, you have to "walk the walk" to truly create a unique point of difference.

BRANDING YOUR APPROACH

How does this approach to customer service provide you with a competitive advantage in the marketplace? It boils down to whether you are "doing what you promised." More importantly, is your approach something that is institutionalized and replicable to the extent you are confident in delivering for the next client and the next project? This is where branding comes back into play. Can you develop a favorable relationship between the customer and your brand, and can you keep it fresh to make the association readily accessible in the customer's mind?

How can you leverage the brand if you are in the midst of pursuing a new client? You will not yet have had the opportunity to demonstrate this in action. The key is to translate the experience with other clients and demonstrate how it will be applied to the prospective client. To clarify, this is not simply providing an inch-thick stack of project résumés. There are a number of people with equally impressive résumés of similar completed projects. Focus energies on how it is your understanding of the prospective client's needs, customer service, identification of service quality gaps — the focus on service quality that truly sets you apart from other contractors.

As with many concepts, you have to "walk the walk" to truly create a unique point of difference. Simply saying "me too" is not going to cut it.

Excellent customer service must be a top priority for everyone in the organization. Actual change, not marketing spin, separates you from the competition and delivers value — and therefore your ability to win (or lose) repeat work. As you roll out customer satisfaction initiatives, take a page out of the playbooks of companies in the service industry. Strive to make service quality a part of your living culture, not just a tag line. ■

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Tilting at Windmills: Innovation at Westphal

CONVERSATIONS WITH CYNTHIA

Each quarter Cynthia speaks with leaders in the A/E/C industry on topics that echo the theme of the issue.

By Cynthia Paul

Founded in 1931, Westphal & Company, Inc. is a full-service electrical and teledata contractor serving the Midwest from its home office in Wisconsin. It is committed to the tradition of integrity and quality, while building on the technology of the future.

John Westphal is the president and chief executive officer of the company. He is in charge of the strategic direction and day-to-day operations of the company. A hands-on owner, he is actively involved with customer relations, business development, competitive bidding, pre-construction services and project management.

Cynthia Paul recently spoke with John about how he embraces and brings in new ideas, tools and processes to Westphal to keep it successful and competitive.

Cynthia: When you first meet a customer, how do you describe the capabilities of the company?

John: We differentiate ourselves as the no-hassle contractor. Due to our geographic market focus in Wisconsin, Iowa and Northern Illinois, there is not enough critical mass of any single-type market segment to generate enough revenue to warrant specializing in one particular type of project. Whether it is chemical, heavy industrial or heavy commercial, we have to be good at all market segments.

> Cynthia is a managing director and practice leader for business development at FMI. She works with industry leaders to help create a strategic vision in order to position their companies to capture market share and grow profitably.

Our first and foremost strategy is to understand the unique challenges customers face in our geographic markets in order to deliver solutions that add value.

We work with many construction managers and general contractors and are able to help them drive the overall project schedule by delivering innovative ideas. We stand up and are accountable for managing the project and helping our customers make money. We make it as easy as possible for them to get their jobs done. It means anticipating and answering their questions when and how they want them answered; it is writing an RFI that already has a potential answer attached to it, etc. We create unique ways to add value on our projects.

We provide customers with information so they do not have to waste time and energy double-checking to make sure we do what we are supposed to do. Westphal & Company takes the pressure off our customers' internal staff, leaving them more time to think strategically about their projects, spend time with other trades and meet the needs of their customers. It is our goal to make their construction projects hassle-free. That is how we sell ourselves, and that is what we deliver.

The key is focusing on costs that can be reduced while still delivering on your brand promise. You have to cut nonstrategic costs, leaving intact your ability to meet customers' needs and wants.

Cynthia: Wisconsin was a challenging market even before the recession. What are you doing to be successful today?

John: The last two years in our market has been all about costs. We are focusing on productivity — driving down costs on the job and in the office. Everyone knows how to drive down the office costs. The key is focusing on costs that can be reduced while still delivering on your brand promise. You have to cut nonstrategic costs, leaving intact your ability to meet customers' needs and wants.

Driving down costs on the job includes prefabrication and rethinking how materials come together. We spend a great deal of time, effort and research to create leading practices in prefabrication. BIM is allowing our field managers to be more productive. It creates an environment with more robust communications, internally and with customers. Total Station is one of the tools we are using to achieve better project results by taking out guesswork.

Detailed job-cost information that highlights productivity by company standard cost codes is another tool in our battle to cut unnecessary costs. We share information down to the foreman level in our company, letting them know what they do has an impact on the success of the project, the company and our customers.

We are also lucky to have the University of Wisconsin right here in Madison. Its Department of Engineering focuses on productivity for electrical contractors. We have been able to build on its concepts to bring creative ideas to our clients and projects.

We share information down to the foreman level in our company, letting them know what they do has an impact on the success of the project, the company and our customers.

Cynthia: Where do you get your inspiration to continue to expand the firm's capabilities and capture competitive advantage? How do you think of new ideas?

John: I am the third generation of my family to own and run this business and have never worked anywhere else. Because of that, I have worked hard to engage in a number of civic organizations and get involved with many other business owners. The relationships help me gain an understanding of different business models and practices.

I am a member of YPO (Young Presidents' Organization) and the co-founder of our FMI peer group. The peer group is a team of large noncompeting electrical contractors who come together three times a year to discuss operations, business development, accounting or the current hot topics. Together we explore the best ideas in the industry to win work, hire people, improve productivity, etc.

Professional development is also one of my top priorities. I read a variety of books about business leaders and general business concepts. For example, 10 or 15 years ago, I was inspired by reading how Wal-Mart, GE and the big three automakers managed their supply chains. They wanted to cut down the number of vendors they dealt with, developing strategic alliances with a small number of them. The objective was to increase the volume and the capabilities of those vendors. Their goal was to drive down costs, while increasing quality and service to customers.

I thought about how that could translate into helping our company and decided to develop a strategic alliance with an independent electrical distributor. It turned out to be a great idea. We were able to accomplish the same thing that Wal-Mart, GE and the automakers were. We have gleaned the benefits from that alliance, while not breaking relationships with our other vendors. The other vendors have become even more responsive, wanting to secure a similar relationship with us.

We actively research construction and parallel industries to keep our eyes open for new and better ideas on tools, means and methods, best practices, company structure, etc.

Cynthia: How do you keep up with what your competitors are doing?

John: My staff and I do a lot of research. We comb trade publications, articles, attend conferences and talk with industry contacts. We focus our intelligence gathering on other electrical contractors, as well as mechanical, plumbing and fire protection contractors. Our prefabrication efforts came partly from what has been learned in the electrical business, but equally from the guidance and ideas of mechanical contractors. Mechanical contractors have a rich history of prefabrication. We also engaged a person from the auto industry who was into assembly line productivity to help us think through and capture efficiencies.

We actively research construction and parallel industries to keep our eyes open for new and better ideas on tools, means and methods, best practices, company structure, etc.

Cynthia: How do you determine which best ideas or capabilities to add?

John: I figure that we are probably batting 500 when it comes to ideas and innovation. You have to take the time to thoroughly experiment with new ideas. There is really only one way to know how good an idea is — you have to try it.

The question becomes, how do you know which ones to add? Let's say we have 10 ideas in the hopper. We try to do full due diligence on each one. We do not go by gut feelings. We dig in and find out the facts. Some ideas are obvious. For example, prefabrication is obvious; it was not something we had to experiment with in order to make the decision to pursue it. All we had to do was figure out the best way to approach prefab.

The tough part is deciding to invest in a new idea at all. In the beginning, you really do not know if there is going to be a return on investment. Enough due diligence will answer most questions on whether an idea is worth pursuing. We never know all the information we would like to, of course, so we test the idea and then have the patience necessary to see it through to completion. We have the capital budgeted to be able to let the experiment run its course to give it the best chance for success. From there, we pick the best bananas out of the bunch of the different things that we are working on to implement in the company.

Enough due diligence will answer most questions on whether an idea is worth pursuing.

For example, we are exploring the ability to take information out of a BIM model and turn that data into machine language that would go into CNC (computer numerical control) machines for bending, cutting and threading conduit. The software process of translating BIM data into machine language will require the help of a software developer, who will probably generate three of four iterations of the software. In other words, we narrow down the scope of the project enough to say, "We are going to try this first step and will spend X amount of money on it, and if that works, we'll go to phase two and then phase three and phase four."

We also strategically add capabilities to the firm. This includes capabilities that are acquired and those that are grown organically. For the companies that we have pursued for acquisition, we have acquired some and we have backed off others, but it has given us a real insight into what these other firms can do, how they do it, why they do it and the way they do it. That gives us a lot of competitive intelligence to decide if it is a good capability to add or not and if it is a good strategic fit.

All of these together have taken much of the mystery out of the process of innovation. Some ideas that I originally thought were bad ideas turned out to be great ones. It has also provided a broader understanding of capabilities that are worth adding and how to best add them to Westphal & Company.

Cynthia: Once you decide that you have a good idea, how do you drive the culture of innovation and change into the firm?

John: That is difficult. Often you have to swallow hard and let your team tilt at some windmills. Sometimes our people will come up with an idea that I might be skeptical about, and I have to remember to not just say no or show any skepticism.

I constantly remind our people they must have the courage to try new things. Courage sometimes means you have to have the capital to be able to experiment. As the leader of the company, it is up to me to be excited about the process of change. Sometimes the leader has to bite his or her tongue and give just a bit of guidance so the employees are not going down the absolute wrong path. Sometimes it is my job to stand by and see what they can accomplish on their own.

I personally feel that I have to be the nuclear reactor for pushing change in our company, or at least the biggest supporter and fan of experimentation, research and development. To drive it you have to constantly talk about it, shine a light on it and ask what is going on with this or that initiative. It has to start with the leader. The leader has to be one that likes change and innovation. It helps to have a little bit of ADD (attention deficit disorder) and be bored with the status quo. If the leader does not like change, or is the type of person who likes to have his or her hands on the controls and fly the airplane straight and level, there is never going to be much transformation in the company.

If the leader does not like change, or is the type of person who likes to have his or her hands on the controls and fly the airplane straight and level, there is never going to be much transformation in the company.

Cynthia: Where do you see industry firms needing to change in order to be successful in the future?

John: In the electrical construction industry, we need help from the IBEW. The IBEW knows what is needed: tiered wage scales, portability, work rules, etc. The union construction industry needs to change in order to be more nimble and compete with the exploding merit-shop outfits.

To be successful we have to get cost out of the system — in the office and the field. We have to deliver the level of quality the project specifies, even if that means a lower level than we would like to deliver. We need to look for projects and customers where the capabilities of the electrical contractor are more important than price; where capability is No. 1 and price is No. 1A.

The problem is that labor is the biggest single cost we incur. In our area, labor can be anywhere from 45% to 60% of the total cost of sales. What we need is a combination of help from the IBEW and a focus on field productivity. Productivity is what many of our competitors are doing just to keep pace with the market.

Cynthia: What have been your greatest lessons learned in embracing and bringing new ideas, tools and processes to Westphal?

John: Honestly, the greatest lesson I have learned may be humility. If our company was only as good as my ideas, we would be extinct. One of the biggest lessons I have learned is to shut up, listen and not appear skeptical when listening to new ideas. When an employee knows more about a situation than I do, I say, "OK, I am going to follow your lead, and we are going to give this the investment, time and patience that it deserves." We establish rigorous metrics and schedules. The key to success is not about me. It is about paying more attention and listening to what our people think. That is what will give us the best chance of innovating and finding new and better ideas.

Another lesson I learned may sound trite, but it is fundamental to solid leadership. It is all about failure. What is failure anyway? If you think there is some idea you should try, what happens when it does not work? Did you fail, or did you just figure your approach did not work? Personally, I do not look at it as a failure; I think we just went down the wrong path. If there is something to be gained, then let's keep trying something different until we figure out how to do it effectively and capture the advantage.

You have to generate a lot of ideas to find the few that will truly make a difference for you and your organization. Learning how to think about failure is one of the valuable leadership lessons that has allowed us to identify and implement changes and innovation in our company.

Cynthia: FMI thanks you for your time and insights on how Westphal is driving a culture of innovation, John. ■

Cynthia Paul *is a managing director at FMI Corporation. She may be reached at 303.398.7206 or via email at cpaul@fminet.com.*

Money Builder: Developing a World Championship Team

Building a profitable franchise requires executives to measure the right things, make the right decisions and keep their eyes on the ball.

By Gregg Schoppman

In 2002 the Oakland Athletics were confronted with a conundrum. Player salaries had ballooned to astronomical levels, and large-market franchises, such as the New York Yankees, New York Mets and the Boston Red Sox, with a seemingly endless fan base, lucrative television rights and merchandise outlets possessed the ability to gobble up signature players. Smaller-market teams were forced to be more frugal with their expenses and balance their payroll against lower income.

In many cases, talented players who developed quickly and became media darlings in these small markets moved to the mega franchises for their payday. Oakland qualified as one of these small markets. Lacking the financial means of the New York Yankees, the Athletics were required to use a nontraditional means of evaluating talent. Enter Billy Beane.

Beane's previous teams witnessed a mass exodus of talent, victims of baseball's free agency system. Players found the glitz of big cities more attractive than Beane's Oakland community. As a result, Beane enlisted the services of Peter Brand, an economics graduate from Yale. Economics? Yes. Baseball scouts had typically relied on intuition and baseball acumen to grade talent as it entered the major leagues from high school or college. In most cases, these talented ball players commanded higher salaries for an unproven product. Beane, himself a mediocre ball player in a previous life, was keenly aware of how scouts gauged talent and how qualitative metrics (how a player looks on the field) received higher marks than quantitative metrics (on-base percentage). Finding undervalued players through a statistical mechanism known as saber metrics — a specialized analysis of objective, empirical data gathered through in-game activity — became Beane's hallmark. Scouts and baseball pundits scoffed at Beane's process, calling it a media gimmick. However, in finding unorthodox players who excelled largely in previously unheard of statistical categories, Beane created franchise gold — winners on the field and on the income statement.

Moneyball: The Art of Winning an Unfair Game by Michael Lewis (New York: W.W. Norton, 2003) tells the story of how the Oakland A's achieved a remarkable winning record in 2002, despite having the smallest player payroll of any other major league baseball team. In 2004 Columbia Pictures bought the rights to Lewis' book, and "Moneyball" the film debuted on September 23, 2011. Brad Pitt stars as Billy Beane, the A's general manager, who is tasked with assembling a competitive team despite the dismal budget. The film was nominated for six Academy Awards, including Best Actor and Best Picture.

The construction industry today is incredibly competitive in two areas. The supply of contractors greatly exceeds the demand of construction projects. Market sectors are saturated with contractors of all talent levels and emerging markets rarely remain a secret for long. More importantly, even in a recessionary market, contractors struggle to find capable estimators, managers, superintendents and foremen to enhance margins, reduce risk and preserve the bottom line. "We're looking for strong estimators and managers." "We need managers who can make money." "We need field managers who have a can-do attitude." While these are notable characteristics, this is a little like a general manager looking for a shortstop with "hustle" and a right fielder with a "gun." Is there a way to evaluate construction professionals based on specific criteria that correlates to enhancing margin, improving productivity and hedging construction risk?

There is no shortage of data in the plethora of financial information that comprise the construction business.

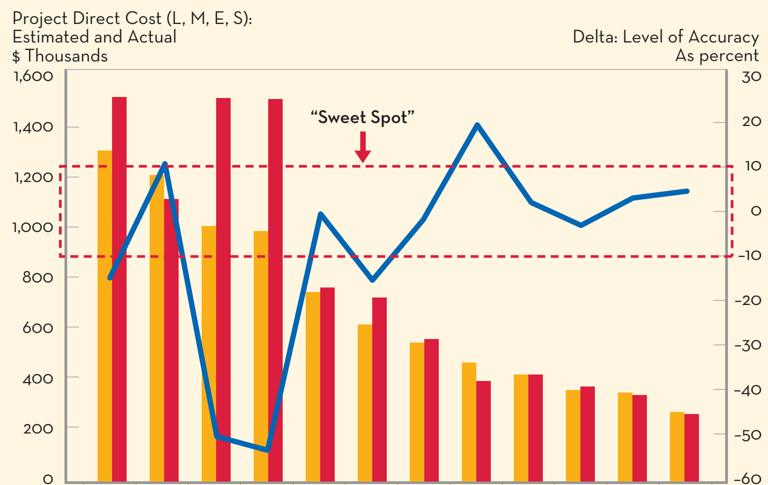
Statistics surround the construction industry. There is no shortage of data in the plethora of financial information that comprise the construction business. However, in an industry predicated on a lean operating model (not to be confused with a lean construction model), finding and evaluating the right data proves elusive. Much like the 2002 Oakland Athletics, construction firms are confronted with finding the right variables to the successful profitability equation.

FIRST BASE — THE ESTIMATING MODEL

Construction executives have long benchmarked their estimating talent to hit ratio — the higher the hit ratio, the greater the success. Common wisdom would indicate that without work, there is no money to be made. However, these supposed "wins" are tallied on bid day rather than at their conclusion. This is analogous to determining the winner of any game at the end of an inning, quarter or period rather than at the final whistle. Similarly, Beane viewed batting average as a weak metric on which to base a player's contribution to wins and losses. A player may exhibit strong hitting prowess, but this does not necessarily translate to runs, which is a greater leading indicator to winning. Rather, Beane used nontraditional metrics or key performance indices, such as on-base percentage and slugging percentage. Ultimately, home runs translate to winning, not simply hits.

Basing estimating success simply on jobs awarded is a flawed metric. In the end, jobs must translate to bottom-line profitability. Hit ratio and profitability are not necessarily correlated. Put another way, just because a contractor is low on bid day does not mean it will achieve desirable margins. However, an organization that emphasizes the importance of a high hit ratio will normally see its hit ratios will increase, often at the expense of profitability. Estimators are evaluated best on their accuracy. Maybe the flaw in this position lies within its title — should estimators be reclassified as "accurators?" Consider the following analysis of an estimator's performance as shown in Exhibit 1.

Exhibit 1
Comparison of Estimator #1's Performance
Estimated cost to actual cost



	J	B	G	C	E	F	A	D	L	I	H	K
Estimated Direct Cost $ Thousands	1,300	1,200	1,000	980	750	625	550	475	430	365	350	275
Actual Direct Cost $ Thousands	1,500	1,100	1,500	1,500	766	725	566	390	425	380	345	265
DELTA As a %	-15	8	-50	-53	-2	-16	-3	18	1	-4	1	4

Awarded Projects for the Year 2011

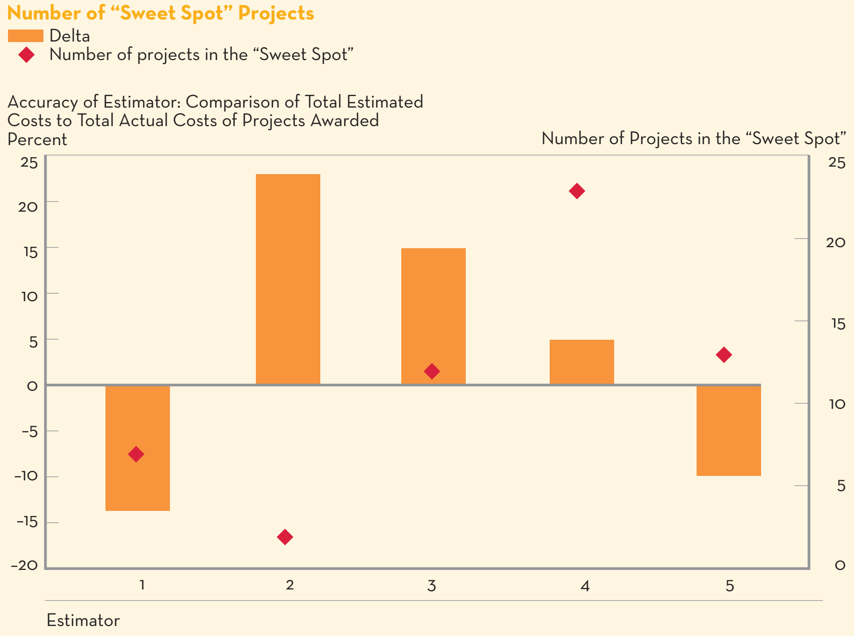
In this example, Estimator #1's portfolio of awarded projects is examined by overall accuracy (estimated costs compared to actual costs) and the relative labor expenditure on said projects. When the projects are sorted according to size, a pattern quickly emerges. As the project size decreases, Estimator #1's overall accuracy improves. As seen in Exhibit 1, this estimator's "sweet spot" — and variance of +/- 10% — is best demonstrated on projects where the labor costs do not exceed approximately $500,000. One could argue that this player's contribution to the team needs to be aligned more with estimating projects within this sweet spot. Lastly, Estimator #1's overall accuracy is -14% based on this year's data set. From a different perspective, it is likely that Estimator #1's projects will experience some sort of margin erosion based on this predictive index. Conversely, it would be equally concerning to see an estimator with a positive variance. While the organization will likely improve on its labor budget, it is also likely that the organization will lose work due to inflation of estimated costs.

The next step in the analysis is to examine the entire pool of estimators and determine overall accuracy of the group. Exhibit 2 examines an entire estimating department's accuracy.

Estimator #4 is the most accurate estimator within this firm. In addition to a

Exhibit 2

Estimator Comparison: Overall Accuracy and Number of "Sweet Spot" Projects



high accuracy score, this person also has the highest number of projects that fit within the acceptable range.

The last element to examine is overall profitability. Within Exhibit 3, the metrics of hit ratio, accuracy and final project profitability are compared.

Based on the traditional metric of Hit Ratio, Estimators #4 and #5 both exhibit strong hit ratios. However, Estimator #5 not only is less profitable, but also demonstrates a "negative accuracy," most likely causing the lower overall profitability. Additionally, Estimator #1, who demonstrates a gaudy 18% gross margin, has one of the worst accuracy ratings and consequently, a low hit ratio.

Metrics and analyses such as these are not complicated and shed light on important strengths and deficiencies within an organization. Furthermore, they provide data points that require further edification and clarity. For example, subsequent actions resulting from this analysis may be as follows:

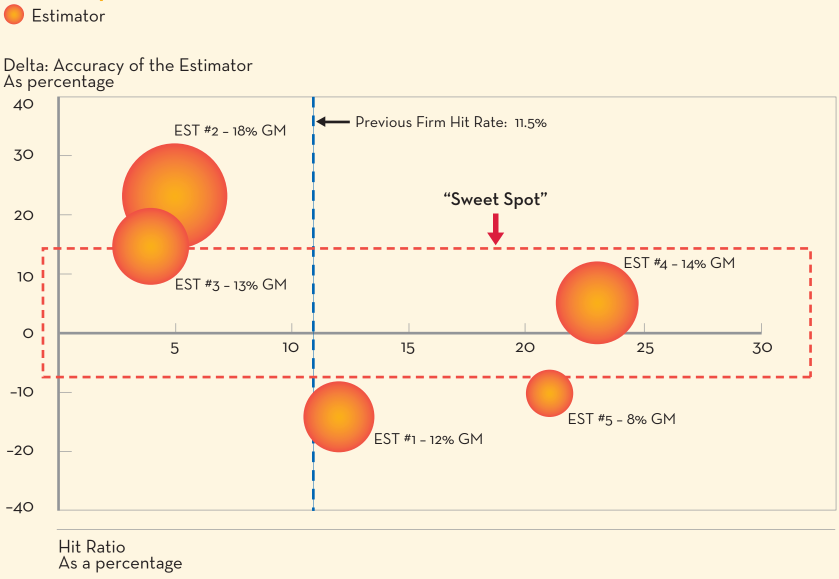
- **Replicable Systems:** What processes, systems or knowledge does Estimator #4 have that the balance of his/her estimating team lacks?
- **Training:** What training is required to improve the collective accuracy of the group?
- **Sustainability:** As markets continue to evolve, is the success of Estimator #4 sustainable or an anomaly brought about by a niche, customer or simply timing?

SECOND BASE — THE PROJECT MANAGEMENT MODEL

Project managers are often the conduit or link between all elements on a project — from office to the field, estimating to the site, trade partners to the customer, customer to the firm. Consider the project manager as the catcher,

Exhibit 3

Estimator Analysis — Accuracy/Hit Ratio Comparison



Note: Size of bubble represents average final gross margin.

communicating with the pitcher, signaling to the outfield and aligning the infield according to the hitter and pitches to be thrown. In many cases, managers' project success or failure is correlated directly to how well they communicate across these different parties. Often it is not the individual communication with these entities that breeds success, but alignment of the communication across these entities that is the true measure. For example, a project manager may possess extraordinary ability to converse with the field. However, this same manager may lack finesse when dealing with a sophisticated customer. The best managers are effective communicators at each level.

A project manager may possess extraordinary ability to converse with the field. However, this same manager may lack finesse when dealing with a sophisticated customer. The best managers are effective communicators at each level.

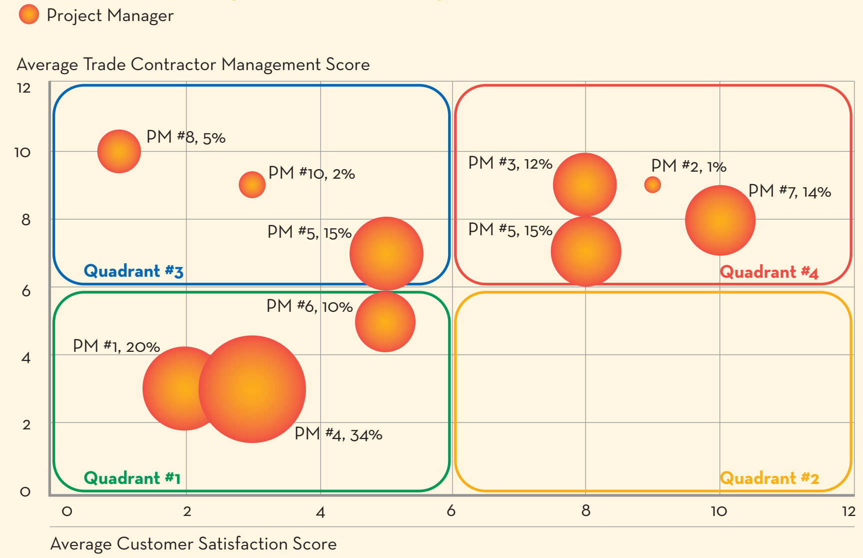
The answer lies in finding the appropriate statistical criteria for a project manager. A project manager who achieves a high gross margin is often lauded as a success. However, can a manager make money but fail at achieving the "bigger strategic picture" for the organization? Final profitability on projects provides short-term success, but in an industry predicated on relationships and the ability to communicate with customers and trade partners, what defines long-term success? Consider the following example as shown in Exhibit 4.

Within Exhibit 4, a firm's project managers are graded according to two external criteria: customer satisfaction and trade contractor coordination. Customer satisfaction, garnered at the conclusion of the project, may be based on timeliness of documents, quality of communication, ability to perform to predetermined standards, etc. Trade contractor coordination, also gathered at a project's conclusion, may be based on adherence to the baseline schedule, proactive communication and planning processes employed, and overall fairness. The 10 project managers were also measured on their final profitability. Project manager #4 exhibits the highest final margin. However, this person also exhibits some of the lowest scores in both the customer and trade partner community. One might ask, "Is this profitability sustainable in the market in which this contractor exists?" For example, what if this contractor operates within a small metropolitan area with limited trade partners and within a niche that has a small, finite list of customers? Might this contractor begin to wear out its collective welcome?

It is important to examine this analysis within the context of the firm's overarching strategy. For instance, consider the four quadrants within Exhibit 4. It is likely that the managers in quadrant #4, while lower in overall profitability when compared with their peers, may be in a very customer-centric market (i.e., design-

Exhibit 4

Project Manager Comparison: Customer Satisfaction Score, Trade Contractor Management Score and Margin Gain



Note: Size of the PM bubble indicates relative size of the average margin gain.

build, negotiated market, etc.). On the other hand, the managers within quadrant #1 may be suited for a hard-bid, highly competitive market. If this firm operates within multiple markets/niches, it will be important to use this tool to find the appropriate role for each individual. However, if this firm operates within one market or niche, there is distinct misalignment that may lead to customer attrition, poor market perception and, possibly, long-term profit erosion. Additionally, with as much variability as exists within this firm, it may be important to examine overall company standards relative to operating procedures. Does one firmwide standard exist, or is there an array of 10 sets of process, procedures and tools? This would be like a team such as the Yankees all wearing different uniforms, players playing whatever position they want and ultimately implementing individual game tactics rather than having one consistent, organizational-driven strategy for executing the game plan.

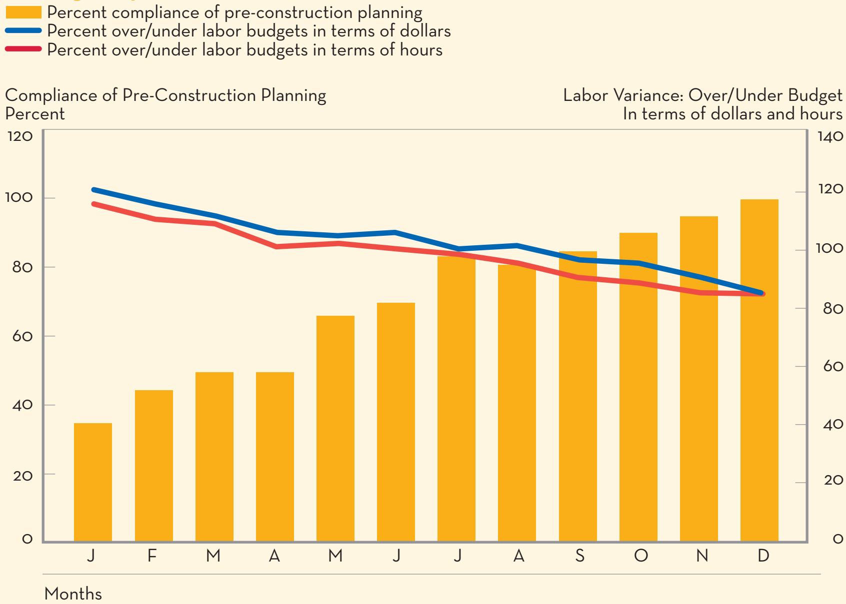
Managers must have a consistent standardized model from which they govern their work.

Managers must have a consistent standardized model from which they govern their work. Scoring within firms focuses largely on end results rather than contributing behaviors to success. For example, examining "downstream" results, such as profitability, direct cost variance and safety scores, provides a historical benchmark but does not provide a great indicator on the systemic reasons for success and failure. Consider the baseball analogy. A team may win a ballgame, but the result may be skewed by the other team's poor performance (i.e., numerous errors, injuries to key players, etc.). Put another way, the team may win in spite of itself. Downstream results, such as wins and losses, are no different from a construction firm's profit and loss statement. Both are important, but it is difficult to make measureable change simply from these metrics.

A better indicator of team health may be to measure the best practices that translate to winning on the field — practices, film sessions, etc. In the case of a contractor, an organization must first measure "upstream" metrics such as process compliance. Did a project team in fact effectively plan the work and prepare the front line for the project? Did the project manager continue the planning through to the end via a project exit strategy session? Did the manager conclude the project with a post-job review or project post mortem to determine winning project tactics? Measuring adherence to firmwide standards is an excellent indicator of performance — projects that make money often are planned from beginning to end. Measuring the upstream (processes) achieves the desired downstream (high-margin) results. Exhibit 5 demonstrates measurement of both upstream and downstream key performance indicators.

Exhibit 5

Contractor X: Comparison of Firm Pre-Construction Planning Compliance and Labor Variance



The firm modeled in this graph demonstrates a steady linear adoption or adherence to the firmwide pre-construction planning standard. For example, in March, the firm completed pre-construction planning on 50% of its projects. Additionally, the firm's labor expenditures are also declining. As the firm plans more, the overages on its direct labor decline. One point of interest is the comparison of the labor in terms of dollars and hours. During January, the firm spent 120% of its labor budget in terms of dollars and 115% of its labor budget in terms of hours. Through this analysis, two major conclusions are drawn. As the firm's managers improve their planning capabilities, their costs decrease. Additionally, the variance in dollars and hours exposes a potential flaw in the firm's estimating rates. Could the estimators be using a higher blended labor rate than actually used in the field? A firmwide "upstream" scoreboard illustrating the right behaviors for managers to exhibit emphasizes and reinforces the right standard to make long-term improvements. Just as practicing improves a team's performance, planning improves a firm's profitability. The team also knows the standard by which it is measured, leaving little subjectivity in the management of people.

Just as practicing improves a team's performance, planning improves a firm's profitability. The team also knows the standard by which it is measured, leaving little subjectivity in the management of people.

THIRD BASE — THE FIELD MODEL

The superintendents and foremen — the front line of any firm — are the true clean-up hitters. The game ultimately is won or lost by their actions. Success is predicated on how well these players understand and implement the game plan. As illustrated in Exhibit 5, examining "downstream" results, such as profitability, direct cost variance and safety scores, provides historical benchmarks but is not a great indicator on the systemic reasons for success and failure. Just as an organization measures management's adherence to pre-construction planning, it must also measure the superintendents and foremen's compliance of short-interval and daily planning. Every player must be held accountable to maintain the firm's standard operating procedures. Beane's players, however seemingly ubiquitous or anonymous, were expected to play to the Athletics' standards, every inning of every game.

One of the greatest individual metrics for project performance is the concept of earned value. Earned value is simply a comparison of estimated units/put-in-place units for a particular phase of work and the estimated hours on said work. Through this mathematical equation, the number of "earned hours" is compared to the actual hours spent to determine the overall efficiency. Exhibit 6

Exhibit 6
Basic Earned Value

A	B	C	D	E	F	G	H	I	J	K
							F/B	(F/B) *D		I/J
	Estimated				Actual					Ec iency
Activity	**Units**	**UOM**	**Hours**		**Units**	**UOM**	**% Comp**	**Earned Hours**	**Actual Hours**	**P Factor**
Chilled-Water Piping	1000	LF	800		300	LF	30.00%	240	400	60.00%
6" Concrete Slab	5000	Sq Ft	1500		2500	Sq Ft	50.00%	750	725	103.45%
6" Sanitary Sewer Connection	500	LF	550		65	EA	13.00%	71.5	50	143.00%
Supervision	1	LS	150		50.00%	LS	50.00%	75	50	150.00%
Total			**3000**					**1136.5**	**1225**	**92.78%**

shows a brief illustration of basic earned value (with the formulas to guide the mathematics).

Within this example, the chilled-water piping is 30% complete (300 LF of the 1,000 LF estimated). However, this firm has spent 50% of its labor hours. The P-Factor (Productivity Factor) or efficiency rate is currently 60%. Comparatively, the 6" sanitary sewer installation is operating at a 143% efficiency rate. These simple calculations rely on the following data:

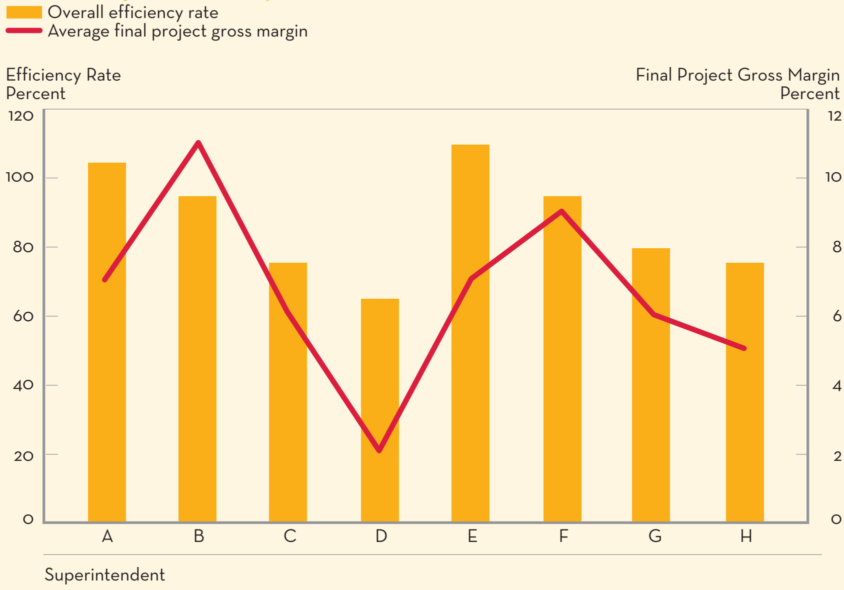
- **Accurate Labor Reporting From the Field:** Hours must be assigned to the correct labor code.
- **Accurate Unit Reporting:** Units must be "claimed" as complete in a universal, firmwide fashion.
- **Timeliness:** Reporting must be made frequently to provide timely feedback, allowing for corrective action to take place.

Whether used in examining the performance on individual tasks or entire projects, the power of earned value as an overall efficiency rating cannot be understated. While profitability may indicate a project's overall success or failure, a superintendent or foreman's true measure is the ability to control direct project costs, thus enhancing the final margin through effective utilization. One of the main reasons that earned value is far superior in grading superintendents than simple profitability is because most firms put their best superintendents on the most challenging projects that may not be the most profitable projects.

Consider the analysis in Exhibit 7. On the surface, Superintendent B exhibits the highest final gross profit

Exhibit 7

Comparison of Superintendent Efficiency and Final Project Profitability



margin. However, it may be the result of any number of factors outside of his/her control. On the other hand, Superintendent A has the highest efficiency rate but falls within the firmwide average on final margin. As a potential scenario, it may be likely that Superintendent A's projects are more challenging, and in the hands of a lesser individual, such as Superintendent D, the project would fail miserably. However, simply examining final profitability may fail to yield the true source of the firm's most productive "hitters."

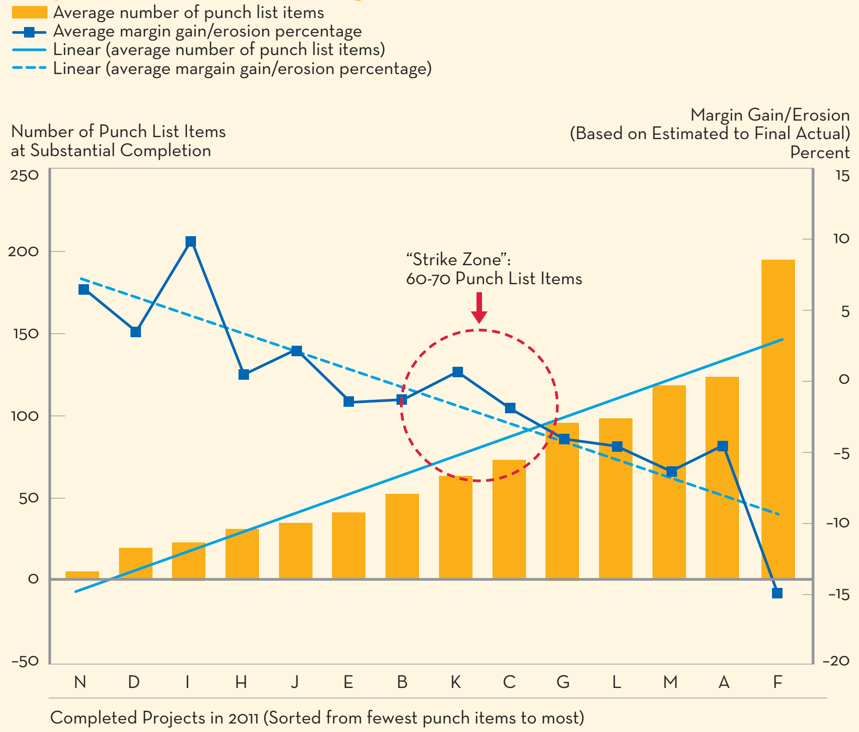
Punch lists or deficiency lists provide another indicator of superintendent performance. In addition to the costs associated with errors in construction, unfinished items and unacceptable quality, there is the intangible erosion on the customer relationship and long-term confidence. There is a distinct correlation between how a project finishes and its margin gain or erosion.

There is a distinct correlation between how a project finishes and its margin gain or erosion.

Exhibit 8 shows a summary of a firm's completed projects and the punch lists generated. Additionally, the corresponding margin gain and erosion were plotted on a secondary axis. Just as the estimator's sweet spots were found in a previous analysis, this firm's "superintendent strike zone" is between 60-70 punch list items. Much as a coach monitors pitch count as a predictive index for a pitcher's deteriorating performance as a game wanes, metrics such as the "superintendent

Exhibit 8

Comparison of Punch List Size to Margin Gain/Erosion



strike zone" provide a target and visual depiction of quality or completion standards. While it is not provided in this graphic, the firm could easily plot customer satisfaction scores in lieu of profitability. While each customer has his or her own expectation of quality, a firm could glean critical connections between its ability to finish with limited deficiencies and its overarching customer satisfaction.

Farfetched as it may seem, a great superintendent can easily resemble a weak superintendent without proper planning. Business developers, estimators and managers may spend the requisite amount of time planning a project, but how much time is dedicated to preparing the field manager? Would the coaches and managers develop a game plan and then fail to share it with the starting pitcher? The effect of poor planning usually rears its head at the most inopportune time. Unfortunately, the project's warts often percolate to the surface at the end, when deadlines approach, crews are tired, and relationships are strained. Profitability declines, and the field manager wears the brand of weak leadership. In the spirit of sports

The project's warts often percolate to the surface at the end, when deadlines approach, crews are tired, and relationships are strained.

analogies, consider the 1986 World Series. Bill Buckner's infamous error became the most recognizable mistake in the sports world and was largely believed to have cost the Boston Red Sox the crown. However, it is important to note that this was not the final game of the World Series. Furthermore, this was a seven-game series, which means the Red Sox did have ample opportunities in other situations to win. Superintendents on poorly planned projects often become the "Bill Buckner" — scapegoats for errors demonstrated in the first inning.

Metrics permeate throughout the construction industry. Whether it is measuring the slump of a concrete yield or the recordable safety incidents annually, managers, executives and business leaders are inundated with numbers. With the saturation of data, it is easy to become numb and fail to recognize patterns and the true indicators of performance. Billy Beane revolutionized the game of baseball and revitalized a franchise up against insurmountable odds, on and off the ball field. The construction industry's context is ever-shifting, and building a profitable franchise requires executives to measure the right things, make the right decisions and keep their eyes on the ball. ■

William Joseph "Bill" Buckner is a former major league baseball first baseman who had more than 2,700 hits in his 20-year career, won a batting crown in 1980 and represented the Chicago Cubs in the All-Star game in 1981. In spite of that, he will be remembered for one bad play in Game 6 of the 1986 World Series — an error that ultimately cost his team, the Boston Red Sox, the championship against the New York Mets.

Boston was up three games to two over the Mets. Game 6 went into extra innings, and the Red Sox scored two runs in the top of the 10th inning. When the Mets came to bat, Buckner, despite being hampered by leg problems, was sent to take the field. The Mets came back to tie the game, and then Mookie Wilson hit a groundball to Buckner at first base. Buckner rushed the ball, which went through his legs and into right field, allowing the Mets to score the winning run. Even though mistakes were made by other Red Sox players throughout the series, Buckner became the scapegoat for a disenchanted fan base.

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How Strategic Plans Play Out in the Real World

To complete this series on strategic planning, senior executives of design and construction firms were asked how their planning efforts and keeping up with changing market conditions relate to key principles of strategic planning.

By Steven J. Isaacs and Karen L. Newcombe

Since 2008, nearly every firm in our industry has faced unprecedented challenges to its strategic direction. Most design and construction firms went into 2008 with a vision, but many of them did not make any advancement towards that vision as they were too busy trying to survive. Healthy firms can weather a typical one- to two-year recession with some belt-tightening and streamlining; but this time many firms found the prolonged struggle to hang on for the upturn too difficult and were either acquired by others or closed their doors.

The recession has put strategic plans to the test: Those that no longer worked were swept away; the good ones helped firms survive and became the seeds for the next round of successful planning. Four basic principles emerged as we talked with the CEOs of design and engineering firms about how their strategic planning efforts have functioned in the real world:

- Develop clarity about marketplace strengths and weaknesses.
- Examine the firm's organizational models with a critical eye, drawing upon outside assistance when needed.
- Gain awareness of how the current and future outside world will affect the firm.
- Set an aspirational direction for the firm appropriate to the context of the first three principles.

DEVELOP CLARITY ABOUT MARKETPLACE STRENGTHS AND WEAKNESSES

One purpose of strategic planning is to anticipate and be responsive to ever-changing conditions in the firm's business ecosystem, taking into account the firm's strengths and weaknesses. This process can identify opportunities to take advantage of strengths, bolster weaknesses and discover where the firm can gain competitive advantage. David Hutchinson, president of Buehler and Buehler Structural Engineers in Sacramento, Calif., said that his firm's strategic planning session in 2005 put it in a good position for several future industry changes prior to those changes. "When Steve [Isaacs] met with us in 2005 for strategic planning, we developed some key strategies for moving forward. At that time, we identified design-build as an avenue for our firm to expand. We have become very active in this market over the past six years. We also got out ahead from a technology standpoint by getting into BIM (building information modeling) and Revit® before others adopted them and began leveraging this computer modeling capability. A particular example of an effort that produced great results for us has played out in how we handle structural steel design. We are now integrating our steel design with Tekla Structures to produce structural steel shop drawings. This helps the fabricators produce precisely what we need for the project and eliminates extra steps where human error can creep in. This cuts time and money out of our project schedule. We built strong relationships with general contractors, which helped distinguish us from other firms during the recession."

One purpose of strategic planning is to anticipate and be responsive to ever-changing conditions in the firm's business ecosystem, taking into account the firm's strengths and weaknesses.

"We also had to focus on staying lean," Hutchinson said. "We trimmed staff, tried to be nimble and looked at ways to increase our productivity. We became active in the Lean Construction Institute, whose goals are to bring the benefits of the manufacturing industry's lean production revolution into the construction industry. A well-known example of this system in manufacturing is Toyota's

Just-in-Time Production.[1] We are attempting to use these concepts to implement a lean perspective throughout the firm."

"Another adjustment we made was to expand geographically to a moderate degree. We find that having an address in an active area opens doors, so we went into Phoenix two years ago and recently started taking root in San Francisco. We have recently found partners in Istanbul and will staff an office internally for this work. Turkey is a highly active seismic area and structural services are widely needed, so we expect overall success from these approaches. Many firms have reacted to the recession by making drastic cuts to marketing budgets, but for us this makes no sense — we see this [downturn] as an opportunity."

So often in design and construction firms across North America, one encounters the "heads-down" condition, where everyone is so busy with the challenges of the day that the big-picture view of the firm slips out of awareness.

In 2005 the economy was still on the rise, but Buehler and Buehler was fortunate to work on the firm's strengths and weaknesses at the right moment. By taking action to increase productivity when others were not yet on that path, Buehler and Buehler was in the position of finding opportunities during the recession.

EXAMINE THE FIRM'S ORGANIZATIONAL MODELS

So often in design and construction firms across North America, one encounters the "heads-down" condition, where everyone is so busy with the challenges of the day that the big-picture view of the firm slips out of awareness. Strategic planning is a key opportunity to step back and make objective observations about the firm's organizational structure, capabilities, markets and internal processes.

Donald Stone, CEO of Dewberry Engineering in Fairfax, Va., explained how the company made a well-timed shift in strategy based on getting a better view of the firm itself. "During our strategic planning process several years ago, we identified a weakness: We had an overreliance on one specific client — the federal government. Our reliance on that client had not been obvious to us before we went through the planning process, but we quickly implemented a tactic to shift our energy to balance out that dependency. This turned out to be a good move for us, as federal budgets are currently down."

Stone also described how the firm's self-assessment during strategic planning has led to positive action. "One of our great results was the identification of an area that we were not strong in — the water market. We were a C player three years ago, but our plan targeted becoming an A player. Between acquisitions and making some key hires, we doubled our revenue in that market each year for two consecutive years. The important factor here is making a critical self-assessment that corresponds to an assessment of the markets: Where do they line up? Where do you need to put in some effort? We are not an A player in water yet, but we expect that in five years we'll be able to compete with them."

Sometimes this type of deep self-assessment is necessary for the very survival of the firm. Pamela Anderson-Brulé, principal of Anderson Brulé Architects in San Jose, Calif., said, "Before the recession we were well-known as a firm doing what Ronald Heifetz, author of "Leadership Without Easy Answers," defines as Type III adaptive work — we were brought in to address those situations where 'neither the problem nor the solution is defined.' Our clients often were affected by disruptive technology and complex challenges that other, larger design firms did not want to tackle, so we came in almost as a stealth team to solve the problems that others could not even define. We worked best strategically in that space."

"With the recession, clients were forced to shift their criteria from quality-based to fee-based, and we had to look deeply within the firm and find ways to become more efficient and productive to serve them. We have looked at whole market types and rethought how we can produce work for less, how to provide the greatest value, and how to discover the key elements of the client's business that allow us to be dedicated to their

Leadership Without Easy Answers

Dr. Ronald A. Heifetz, author of "Leadership Without Easy Answers," the defining book on adaptive leadership, distinguishes between technical and adaptive challenges. Type I challenges are those challenges where the problem is easily defined and the solutions are purely technical in nature and the answers are already known. Type II challenges are those where the problem can be defined, but the solution is not known. Type II challenges require new learning in order to be solved, and Heifetz says they are partly technical (i.e., amenable to technical solutions) and partly adaptive, therefore requiring new learning to find that solution. Type III challenges are classified as entirely adaptive: Just defining the problem requires new learning, as does finding the solution and implementing it. Adaptive change requires a collective effort to solve as the group learns its way towards the solution.[2]

work and produce results that mean the most to them. We had to adapt to technological change as well, bringing in Revit® and other tools. We are also looking at our project processes: Can we draw less? Can we take fewer people to meetings? Our staff is highly trained in strategic planning and advanced facilitation skills. On projects where we would typically take three people to facilitate a session, we now take two, so where possible we are reducing the number of people for a given effort."

"We had a highly effective, strong firm, but as the economy changed, we had to get even more efficient; we had too many layers, too many decision points, too many people on each project."

This deep internal examination at Anderson Brulé brought the realization that the firm needed to simplify and streamline in order to survive. Even firms that are by nature innovative still need to be effective and productive, and by initiating decisive actions to enhance productivity and effectiveness, the firm has survived.

Strategic planning frequently is focused on interpreting conditions in the outside world, relating them to the firm's future goals and identifying strategies to reach those goals.

GAIN AWARENESS OF THE OUTSIDE WORLD AND HOW IT WILL AFFECT THE FIRM

Strategic planning frequently is focused on interpreting conditions in the outside world, relating them to the firm's future goals and identifying strategies to reach those goals. The world, being a moving target, does not cooperate in these efforts, so firms must find ways to constantly adapt and respond to ever-changing conditions.

Mike Re, CEO of the San Francisco-based construction firm Swinerton Incorporated, recently used scenario planning to help the firm gain momentum and react more quickly to change. "Our work has gone relatively well, but we knew that the firm tended to lose momentum when a significant shift occurred either within the company or in the economy. Historically, we would tweak the existing plan, but we have found over time that we moved too slowly — our reaction time wasn't fast enough. In our latest strategic planning effort, we went through a new process using scenario planning. This has allowed us to test various options in advance, so we have some idea of how they will play out under differing conditions. We think this new plan will help us be more flexible and prepared to adjust to changes as they occur. It took us a while to grasp the concept of using scenario planning, but now that we've been through it, we definitely see the value it brings — we can test to some degree how an initiative will work out."

Swinerton also expanded the range of people involved in strategic planning to gain a wider perspective. "One thing we did in this plan was to go deeper in the organization to get a spread of younger people and cross-disciplinary participants in order to get input from a well-balanced group and research from people who had different points of view about what is going on in the world. In this new plan, we feel we have a strong approach with the right mix of input from across the organization," Re said. "Communication across the board and creating excitement about our direction is essential. We don't think it's possible to overcommunicate what it is you want to do and how you plan for the firm to get there."

> **In spite of the economic slowdown, the outside world is also moving faster — the competition is working harder, technology continues to advance on an exponential curve, and clients are faced with challenges they have never had in the past.**

In spite of the economic slowdown, the outside world is also moving faster — the competition is working harder, technology continues to advance on an exponential curve, and clients are faced with challenges they have never had in the past. Dewberry Engineering identified a change in its clients' needs and used scenario planning to react to these external forces.

"We build into our plan the capability for investments and adjustments," said Don Stone. "In reality the plan is just that, a plan; it has to be flexible when the parameters change, as they always do. We have set up our plan so we can adjust to deal with these changes as they occur. In our firm, we're very entrepreneurial; we don't like a prescriptive approach. Because of this, scenario planning works well for us.

"To give an example, we have all seen the shift from traditional design services to design-build. In that case, the market didn't change, the clients changed and their needs changed. Over the course of the past six years, we have had to make the shift from having a primary role to being a subconsultant to a contractor. Scenario planning lets us get into the subtleties of shifting roles like this, that make the difference between being successful and just doing OK."

Dewberry also was hit hard by the failure of the land development market, but was able to take advantage of having talented individuals become available that would help it adjust to changes in another market. Stone said, "We experienced a change in hydrology and water work that was unpredictable. The market is shifting and diversifying from being predominantly federal government to being state and municipal. We initially tried to shift with the market, but didn't have the skill set or the time, so we chose to make target hires and acquisitions. We have not backed off our employee retention, but have taken a stronger look at enhancing our stable of talent because people are now available at a reasonable price."

Using strategic planning efforts to take a hard look at the outside world is often the only time the firm can set aside to make these observations, but this cannot be set aside for "more pressing concerns." As Peter Drucker said, "There is only one valid definition of a business purpose: to create a customer." Customers only exist in the outside world, so a firm's observations and research into market conditions and worldwide trends are key principles of strategic planning.

SET AN ASPIRATIONAL DIRECTION FOR THE FIRM

A strategic planning effort can be designed to set an aspirational future destination for the firm. Such plans work backwards from that "flag on the mountaintop" to develop the necessary steps to get there. Often called backcasting, this practice is differentiated from the more typical method of forecasting, which measures where the firm has been historically and projects incremental improvements of the current state.[3] SERA Architects used backcasting seven years ago to set a new goal for the firm — to become the most sustainable firm in the Pacific Northwest. Firm principal Tim Smith said, "We started thinking of our business relationships as an ecosystem and individuals as a 'zone of influence' rather than a dot on the organizational chart. To have a successful plan, we knew we needed the right people involved at the right point in time." Principal Clark Brockman added, "We got to the point where we asked ourselves, 'What do you really want to be now? What does the firm need to be now?' Instead of just offering services, our direction took us more toward becoming thought leaders."

> **Customers only exist in the outside world, so a firm's observations and research into market conditions and worldwide trends are key principles of strategic planning.**

Tim: "Planning for us is an opportunity to constantly change and adjust. Forecasting looks at past and current conditions and extends them outwards. By using backcasting we can get more clarity on our goal of being a thought leadership firm."

Clark: "We use backcasting to identify how we'll connect our present to the future. You start with a clear, unwavering vision of a desirable, aspirational outcome. To get there you have to map a course toward the vision — you steer toward the goal, adjust course and steer forward again. When we got clear about what our aspirations were, we had some people self-select out and others self-select in, so that was also good for us. Right now, we are working to get a better concept of 'fail often and fail forward,' which we interpret as 'learn forward.' The goal has to be better than the default condition."

Tim Smith, who has been a TEDx speaker, added that, "One of my fellow TEDx speakers said that in his firm every day they come in trying to figure out how to get fired, what risky thing they can do. Everyone gets two 'Get Out of

Jail Free' cards per year, and if you haven't failed at something twice by the end of the year, they want to know why not. People need flexible, clear goals. They need to know what the belief is and a mantra that expresses it. They need checkpoints, a simple message they can use. They need ownership of their actions and they need to be inspired. When the goal is inspiring, people want to go there; it fires the imagination."

The result of setting high aspirations for the firm has worked well: In 2010 Architecture Magazine placed SERA as No. 3 on its list of the 50 most sustainable architecture firms in the U.S.

FOUR KEY RESULTS ACHIEVED FROM STRATEGIC PLANNING

All of these principles need supporting structures in the firm to work well. In some cases, strategic planning yields no results due to a lack of information about the plan and its goals or an absence of accountability for executing the plan. Companies must be rigorous in communicating the goals and responsibilities outlined in the plan across the entire firm and setting up the accountability systems that measure actions, accomplishments and results. The best outcome for a great strategic plan is when it produces results that go beyond its original goals.

Strategic planning efforts can help a firm develop clarity about marketplace strengths and weaknesses. Analyzing what the marketplace is looking for, both now and in the future, and assessing what the firm has in place as well as what it can strengthen to respond to those needs are a key achievement of strategic planning.

A second outcome of strategic planning is making positive use of the learning that comes from a critical examination of the firm's organizational model. Do the firm's organizational, cultural and financial models match up with its current needs? Is the firm productive enough? Is it the right size? Are the metrics in alignment with its purpose? This analysis can sometimes result in eye-opening realizations, bringing necessary changes to the forefront of actions.

Although we cannot predict the future, strategic planning efforts allow the firm to gain awareness of conditions in the outside world. The hints of changes to come are always before us, hidden within current trends and events. While firm leaders do not need to become professional

The best outcome for a great strategic plan is when it produces results that go beyond its original goals.

futurists, looking at the world outside the design and construction industry on a regular basis can help the business prepare for future conditions or even avert disaster. Scenario planning is a good tool for testing various models and services the firm might use against a variety of potential conditions, helping it better prepare for the future.

Perhaps the greatest purpose of strategic planning is to set an aspirational direction for the company, to identify the preferred future for the organization and define the steps for achieving that goal. Such visions can inspire and unite the firm and lead to superior results. ■

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[1] Just-in-Time Production strives to smooth out the overall system by eliminating waste, overproduction and inconsistency, as well as applying principles of kaizen (continuous improvement), fact-based decision-making, teamwork and respect.

[2] Ronald A. Heifetz, *Leadership Without Easy Answers*, Harvard University Press, 1998.

[3] For a case study of Steve Isaacs' backcasting process applied to a firm's leadership transition, see *FMI Quarterly* #4, 2009, pp. 85–96.

Public-Private Partnerships: What You Need to Know

As P3 knowledge begins to percolate through midsized contractors, we can expect an efficient, high-quality U.S. brand of P3 to emerge and compete with other delivery methods.

By Sabine Hoover and Colin Myer

Where is the public-private partnership (P3) revolution that has been heralded by public officials and A/E/C practitioners? In spite of a historic need for infrastructure development and replacement, the movement has been slow to gain traction in the U.S., while P3 models have thrived overseas. So what are we waiting for?

A tipping point, perhaps. The message from last year's U.S. P3 Infrastructure Forum, hosted by InfraAmericas in New York in June and attended by key players from the A/E/C industry, was that "P3s breed P3s and they are here to stay." Proponents argued that the more (successful) P3 projects that are completed in the future, the more confidence and trust the general public, industry stakeholders and government officials will have in these complex finance and delivery models. After all, success breeds success.

Despite such optimism, advocates admit that many obstacles must be cleared before a broad-sweeping P3 revolution can take place in the U.S. As one executive from a large construction company put it, "There have been a number of P3 failures. Projects have been canceled, owners couldn't get the approval or the financing lined up for one reason or another — it's just not a real crisp process and that has caused a lot of heartburn for players who invest millions of dollars into the pursuit of these projects."

This article provides an outlook for the U.S. P3 market and offers insight and recommendations from various stakeholders, including contractors, concessionaires, consultants, lawyers and owners, on how to get involved and succeed in today's P3 market. Information was gathered from interviews with more than a dozen industry leaders and provides a concrete basis for understanding the key issues and opportunities related to P3s.

ON THE CUSP OF A REVOLUTION

Setting the stage

Project delivery methods across the U.S. have evolved predominantly at the state level, shaped by the laws, regulations and politics of state and municipal legislatures and councils, influenced peripherally by national initiatives, such as the Federal Aid Highway Act of 1956. While the U.S. Interstate system was conceived of and funded by that bill, civil works were contracted (and continue to be maintained) by state transportation departments. Likewise, laws like the Miller Act established bonding and procurement requirements for government contractors that advanced the cause of municipal projects, which had a tighter margin for error on an investment.

State legislation has dictated the adoption of certain delivery methods (such as design-build prohibited until just recently in New York by "Wicks Law," for example) and new laws, paving a clearer passage for alternative delivery methods in government contracts. Such a piecemeal and slow-moving approach to overhauling the regulations that dictate contract delivery is why there is such divergence in construction delivery methods from state to state and from municipality to municipality today.

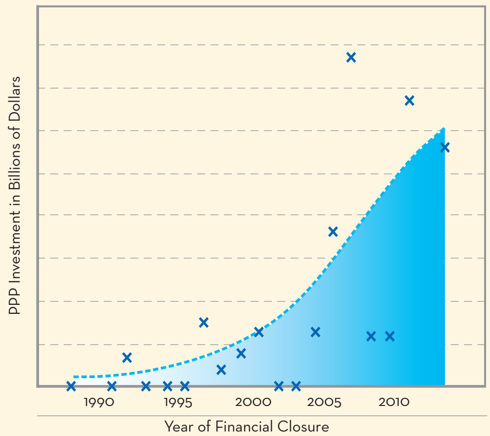
Further, regulatory change has met with a dynamic, fragmented and very diffuse design and construction industry at each step, pushing public-private partnerships to grow and evolve differently according to region and project type. In spite of such a slow uptake of P3 models in the U.S. due to this diversity, public-private partnerships have a 200^+ year history in the U.S. — indeed, thousands are operating today.

Regulatory change has met with a dynamic, fragmented and very diffuse design and construction industry at each step, pushing public-private partnerships to grow and evolve differently according to region and project type.

In recent years, P3s have started to gain meaningful traction, predominantly in the transportation sector, as shown in Exhibit 1. Many industry analysts expect this trend to intensify, as P3s have proven a viable means to repair and upgrade infrastructure, particularly in a strained economy where public resources are limited and private capital is in need of strong, risk-adjusted investment opportunities.

Today, more and more owners are looking for new and innovative delivery methods using state-of-the-art technologies that offer a broad variety of project components. Such alternative formats include design-build, design-build-finance, build-finance, CM-at-risk and varying Integrated Project Delivery (IPD) arrangements, each iteration offering greater collaboration between stakeholders in a departure from the linear hard-bid contract, traditionally specified by the owner.

Exhibit 1
P3 Investment in the U.S. Transport Sector



Source: Public Work Financing, October 2010.

Across the country, alternative delivery methods comprise approximately 50% of nonresidential contracts. Viewed in the context of these options, P3s represent not a new model, so much as a place on the continuum between wholly owner-driven projects and purely collaborative, shared-risk models of project execution. Some of the variations at the highly collaborative end of this continuum will bring in additional deliverables like operations and maintenance, as stakeholders find more ways to derive value from a project.

The continued evolution of joint public-private endeavors has been fueled by the payoffs that come from sharing resources and risk: greater efficiency, better access to capital and higher-quality, more cost-effective results than traditional funding methods. Public agencies are able to contract the ongoing monitoring and oversight of an operation; meanwhile, high-performance private firms bring their expertise to large-scale, long-term projects.

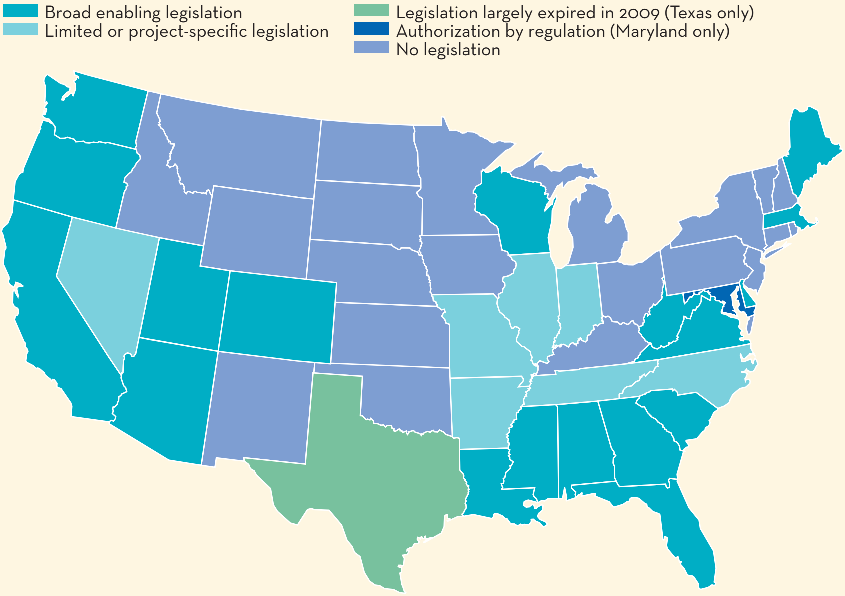
> "P3s have clearly come a long way from where they were 15 years ago. It's got a lot more market momentum today but it's still an infant trying to grow up."
>
> ***James Geer, Manager, Public-Private Partnerships, Kiewit***

However, there is good reason that the uptake has been slower than the feed: The market structure and the legislation influencing it take time to evolve. As more states continue to develop legislation allowing for P3s, expect greater standardization and consistency around P3 models, which will drive a broader acceptance of these types of projects in the U.S. Exhibit 2 identifies states that have already developed legislation on alternative procurement methods, including design-build-finance. Some states, such as Virginia, California, Florida and Texas, offer more advanced funding flexibility; other states, such as Ohio and Illinois, have recently passed legislation allowing for P3s.

Exhibit 2

P3 Legislation by State

Where are the best states for P3?



Source: A survey of PPP Legislation Across the United States. Michael E. Pikiel, Jr. and Lillian Plata. Global Infrastructure, Volume 1, 2008

Key hurdles to overcome

One of the fundamental issues slowing a broad P3 acceptance in the U.S. is the lack of understanding of what public-private partnerships really are. James Geer, manager of P3s at Kiewit, sums it up: "I think there is still a tremendous lack of understanding of really what it's all about, what it brings, and, ultimately, what its place is in the market. I think from the owner's perspective, you have 50 states that have 50 different ways of looking at things; 50 different types of delivery models. When you have that much diversity and decentralization of the decision-making process — at the project delivery level — it takes time to get that through to people."

Part of the challenge of educating people about P3s is directly associated with the complex nature of these projects.

Part of the challenge of educating people about P3s is directly associated with the complex nature of these projects. Public-private partnerships are typically highly complicated deals, involving dozens of stakeholders with diverse business backgrounds and mind-sets, and are often embedded in a complex political environment. For many contractors, the idea of getting involved in these types of large, multi-faceted projects is very intimidating and often it is not entirely clear to many firms how they would participate in P3s, or even if they could. Geer states, "A/E/C industry professionals have become very comfortable with the old project delivery models. They understand the risk profile, the relationship dynamics, the owner profiles — and they know how to make money on them. Therefore, when you disrupt that environment, there's a fear of loss of control and market share. And that's always hard; you're asking folks to do something new and different. So there has been an industry resistance up until recently, but I think all that is slowly starting to change."

> "Here in the U.S., the market is more stable and it takes a lot of effort to actually break through and challenge the old system with a new model."
>
> *Magnus Eriksson, Senior Vice President, Skanska Infrastructure Development Americas*

Despite the industry's slow-to-change mind-set and the high level of uncertainty over what P3s are all about, knowledge and agility among contractors, construction managers and other stakeholders is building, with interest in P3s peaking at local, regional and national levels. The impetus for firm leaders to move beyond the traditional business model has received a bump from the difficult market environment. Scarce resources and hard-fought opportunities in the industry have seen contractors look for greater autonomy over procurement to enable their companies to stay working.

The next section of this article provides insight on best practices from contractors and concessionaires who have established themselves as leaders in the U.S. P3 market.

PARTNERING UP: THE SAVVY CONTRACTOR

In-depth interviews with more than a dozen P3 industry leaders offer several tactical strengths that help contractors get started with P3s, from both a business and an operational standpoint.

Build your expertise through strategic joint ventures. Pick your partners carefully.

Most interviewees described P3s as a completely "different animal." What you learned in previous construction jobs does not necessarily apply to P3s. Therefore, it is important to start cautiously, educate yourself as you move along and work with experienced project partners — ideally, trusted partners with whom you have had successful prior experience. When selecting the right partners, the lowest bid is not always the best choice when you are hoping to form a long-term relationship in which both of your futures are invested.

This is the time to consider new types of partnerships and joint ventures. For instance, several U.S. contractors are currently working with FMI to explore new types of alliances with financial institutions in order to set up consortiums offering a wide array of P3 services.

Plan comprehensively for project complexities. Be smart about your decisions.

P3s are typically very complex, large-scale projects. Therefore, it is important to know what to expect of the partnership beforehand and to outline expectations and responsibilities at the outset in an extensive, detailed contract. On top of that, a conflict-resolution contingency should be on hand to deal with inevitable disputes, whether large or small. Always keep an open mind and be ready to resolve issues at every step of the way. As Dusty Holcombe, deputy director of the Commonwealth of Virginia's Office of Transportation Public-Private Partnerships, says, "This is marriage without divorce. If you have a 50-year term where you've got construction operations, maintenance and financial aspects going, then you need to work out how to get there and, once you're there, work things out if you have any issues in between. It's a long-term relationship."

It is important to know what to expect of the partnership beforehand and to outline expectations and responsibilities at the outset in an extensive, detailed contract.

Understand the cost and risk barriers to entry. You need deep pockets and a thick skin.

Due to the magnitude of P3 projects, contractors are often required to provide proof of strong balance sheets and solid bonding capacity. More often than not, the concessionaire will require a large (i.e., financial) parent company to back the performance of the design-build and request large Letters of Credit (LOCs) as additional performance guarantees of the design-build, in order to meet the lender's requirements for backing the deal with debt. While the amount of equity a firm looks at fronting is one obvious consideration, the issue with greater potential impact on a firm's balance sheet is the financing risk it is taking on. P3s bring with them greater risk in terms of a longer life cycle, larger scale of liability and heightened vulnerability to changes in external dynamics as the project progresses, for example, changes in public administration. Magnus Eriksson, senior vice president, Skanska Infrastructure Development Americas, emphasizes the novelty of new arrangements. "First of all, you have to understand that the risk allocation — the risk in a P3 project being pushed to you as a contractor (especially if you're an American contractor) — it's probably something you've never seen before."

The intricacies of risk allocation often present new ground for contractors to cover, with different specified liabilities for various portions of a project — usage, travel, hazmat, archeological and revenue risk, for example — assigned to either public or private parties (see Exhibit 3). David Hatem of law firm Donovan Hatem, LLP states, "A/E/C firms participating in P3s may find themselves on unfamiliar legal ground. Risks not typically dealt with by private entities may be transferred to them in a P3. Some of this is not insurable risk."[1]

Be strategic about the projects (and owners) you go after.

Preparing bids for P3 projects can take years and millions of dollars of investment. Therefore, it is paramount to have a deep understanding of the owner's

Exhibit 3

Risk Reallocation in P3s

Potential Risk	Typical Private Sector Responsibility	Risk Shifted to Private Sector in PPP
Major environmental risks	No	Maybe
Usages rates, travel and revenue	Never	Not Likely
Conflicts, delays from unknown historical conditions	No	Yes
Conflicts, delays from unknown archaeological conditions	No	Yes
Conflicts, delays from unknown endangered-species conditions	No	Yes
Conflicts, delays from unknown utility conditions	Maybe	Yes
Cost and delays from unidentified hazardous waste not caused by contractor	No	Yes
Accuracy of design and survey data	No	Yes
Geotechnical and soil conditions	No	Yes
Differing site conditions	No	Yes
Delays from legal action against the project	No	Yes
Delays from public interference	No	Yes
Right-of-way acquisition cost and time to procure (need the public entity's right of eminent domain)	No	Likely
Changes in zoning, laws or rules that may affect the project	No	Yes
Delays by the grantor and/or other agencies	No	Yes
Insurance coverage	Partial	Likely
Up-front costs to design and develop project	No	Likely
Long-term liability exposure for maintenance, structures	Maybe	Likely
Long-term liability exposure to litigation	Maybe	Maybe
High and unusual liquidated damages for delay	No	Likely
Extraordinary guarantees	No	Likely

Source: "Focus on Insurance: New Alignments, New Risks." Association of General Contractors, "Constructor Magazine," May–June 2009.

"ecosystem" and the viability of the project, which is often dependent on the public and political context. What are its budgeting process, timetable and constraints? What does its decision-making process look like? How is the public agency run? Jane Garvey, North America chairman of Meridiam, explains, "Strategically, we focus on those areas where there is P3 legislation, where there are real champions. I think you really have to understand the power structure of each of these individual states and examine whether the P3 legislation is workable (some of it is not so great). We also look at the criticality of a project. Because these are long-term relationships, we want to make sure it's a project that will survive many administrations."

As part of this reconnaissance phase, it is also important to identify public agencies that understand what types of public policy goals they are trying to achieve and promote. If a proposed project has lots of public support; has already overcome some key hurdles, such as environmental impact assessments; and is part of a more comprehensive agency program, then chances for a successful P3 deal increase dramatically. If, on the other hand, an agency is just trying to do a P3 because it does not have sufficient funding and it appears to be a one-time type of deal, then the risk of failure is much higher.

> "P3s have a higher risk profile than your average construction project, so you don't pursue them necessarily with the same kind of staff. You get more senior management involved with a P3 pursuit; the overall investment is typically significant and the time frame for preparing the bid can be very long. Therefore, you only want to do that on projects that are real and which have fair procurement and contract terms."
>
> *Matt Girard, Executive Vice President, Business Development, Flatiron*

Get in the door early. Start building relationships with public officials and finance representatives now.

P3s require commitment and support from senior public officials, who must be actively involved in supporting the concept of P3s and take a leadership role in the development of each given partnership if they are to succeed. Start conversations with public officials and finance representatives long before projects have been announced. Understanding the project needs as well as the P3 process is fundamental to building trust with a given stakeholder — crucial if it is personally to invest itself in a P3. Long-term relationships with key influencers will help you shape and develop P3 projects from the onset. Greg Ciambrone, vice president at the Walsh Group, states, "It's a grass-roots approach. It's for the industry as a whole to meet with states and municipalities, the DOTs, to just educate them on what tools are available to them to solve their needs. Contractors, at least the financially strong contractors, could be part of the solution (not whole solution), and it necessitates a dialogue within the industry to search for different delivery methods. It will take continued education with public officials to let them know what works and what doesn't work."

Collaborate and innovate.

P3 projects are highly complex and collaborative in nature and therefore cannot be run in a silo-type manner. New emerging technologies as well as owner demands are pushing design professionals and contractors to work as a cohesive team from the outset, communicating and approaching projects more holistically. As part of this effort, it is important to build strategic alliances with reliable partners and to develop a deep network of companies that are team players, open-minded and innovative. Experience in design-build-type delivery methods, as well as a background in finance, operations and maintenance, is a huge plus and can help your company differentiate itself even further. Holcombe states, "I think contractors just need to keep an open mind and not just focus on what was done in the past. This whole P3 concept is innovative, so they need to think of innovative ways to get these different things done and not dwell on what was a market precedent seven years ago."

LESSONS LEARNED FROM P3 PROJECTS

Even though the public and private spheres operate under different pressures, each is now recognizing the profound value a public-private partnership can bring, both in an economic and a social sense. On the private side, high-profile public projects can build a firm's reputation and cement ties within a community or region, while at the same time contribute to the socioeconomic health of that particular locality. Firms also find that P3s provide an opportunity to broaden their reach into new products and services, as the project demands all parties to innovate. For public-side stakeholders, the P3 model brings with it an injection of equity that can make a crucial project happen. The advantageous arrangement under which the public and private entities perform to their specialties (in terms of project management, technical skills, project benchmarking, and operations and management) also ensures a high return on investment.

Solid partnerships offer a deep understanding of the needs of each stakeholder and help facilitate the work beyond what is seen on a typical arm's length commercial relationship.

Beyond the complementary benefits of public and private entities attracting a counterpart to contribute its strengths to a project, there is a real synergy that can be tapped through collaboration that renders the final product greater than its individual parts. Solid partnerships offer a deep understanding of the needs of each stakeholder and help facilitate the work beyond what is seen on a typical arm's length commercial relationship. Establishing a synergistic relationship begins with a few select factors:

Clear vision and strong commitment from the owner's side.

Interviewees agreed that a successful P3 project starts with an educated and well-informed owner. It is important for the public agency to define a clear vision that indicates tangible objectives and outputs and shows clear benefit for the community. It is also essential for the owner to be committed to the process and to understand what the delivery model can bring to the table. Visible leadership by one or two high-profile champions in the public and private sectors can help kick-start the initiative and attract partners from a broad spectrum. A well-defined public relations program and open communication are critical elements of this effort.

Demand for and viability of a project.

The political environment as well as the project's longevity (i.e., can it survive the transition from one administration to the next?) are fundamental to a P3's success. If the project represents a critical link or component of the community's infrastructure, then both political and public support is more likely. For example, the Long Beach courthouse deal in California was closed in a transition period between two different administrations. The courthouse is the largest in California in terms of number of cases, and it houses very influential judges; it is essential to the justice system in the state. This particular P3 is an availability-based infrastructure project and is the first such courthouse P3 in the U.S., although similar projects have been carried out in Australia, Canada and the United Kingdom.

Motivated partners whose interests and capabilities align with the overall initiative.

The P3 project must tap into interests of partners from multiple sectors to produce sustained engagement. It is important to understand and articulate a clear rationale for involvement, which may be different from one partner to the next. Clear communication of requirements and benefits will avoid unrealistic expectations and misunderstandings further down the road. Geer believes that, from an internal perspective, "It's working with a team that is committed to the project, bringing together true complementary capabilities without overlapping and inefficiencies." Further, he explains, "On successful projects, we've experienced a like-minded view of the philosophy of the deals and the success factors of delivering that job, and everybody's incentives were aligned to make it happen. And when you have all those ingredients come together, you can have a really successful project."

The P3 project must tap into interests of partners from multiple sectors to produce sustained engagement. It is important to understand and articulate a clear rationale for involvement, which may be different from one partner to the next.

Well-defined P3 coordinating mechanisms.

Some states have a full-time P3 program management office (e.g., Virginia's Office of Transportation Public-Private Partnerships) that is responsible for developing and implementing a statewide program for P3 project delivery. Central coordination helps expedite the delivery of projects; promotes transparency and accountability, coupled with informed and timely decision making; and provides consistent processes and procedures, which in turn encourage private-sector investment. Holcombe explains, "We understand that some states don't like or understand P3s, but Virginia has a history in it. The development of this office and the commitment of our resources (internal/external) all have the objective to get these projects done. Therefore, our goal is two-fold: getting the projects done and setting up a project pipeline for a long, long time."

Effective communication channels.

Public outreach is one of the most vital components of a successful P3 project. Experienced owners and project stakeholders take the time to educate the public about P3 projects to make sure that citizens understand the purpose of a project and how it meets the needs of the community or the state as a whole. Skilled owners have comprehensive communication plans in place, composed of a mix of private- and public-sector staff. Public outreach is a vital education process and can help break down common misperceptions of P3s, such as the idea that foreign companies come into a community to take over infrastructure assets.

> "I think to truly get the U.S. P3 market to take off, owners need to do their homework with their consultants, take care of third-party issues related to permitting and right-of-way type matters and let the private sector do what the private sector does best: compete. Bring the innovation, bring the ideas and it can be a fast procurement."
>
> *Matt Girard, Executive Vice President, Business Development, Flatiron*

GILBANE DEVELOPMENT COMPANY: A CASE STUDY

Gilbane Development Company — one of the two companies that form Gilbane — collaborated with Loudoun County, Va., to consolidate its scattered operations into two locations. As part of this effort, Gilbane worked closely with one of the local communities, the town of Leesburg, to identify the most suitable location for the Loudoun government offices and explore innovative financing options. In the course of the project, Gilbane formed a special-purpose entity, which effectively became the property owner for the proposed facility. Under this scenario, Gilbane took on the role of developer and reported to the property owner (the special-purpose entity in this particular case). This arrangement allowed Gilbane and the consortium to use tax-exempt bonds and implement a highly effective financing solution, which created more than $1 million in total annual savings (or $22 million cumulative savings over the entire lease term) for Loudoun County.

Loudon County experienced some key benefits from adopting this type of public-private partnership:

- **Reduced occupancy costs.** Overall, the county will save $22 million over the lease term.
- **Accelerated timeline.** The county was looking at a three-year time frame to consolidate all of its operations into two locations. Gilbane was able to compress the project schedule to 18 months.
- **Risk transfer.** The county outsourced all the financing, design, development and construction risk to Gilbane, which resulted in savings of approximately 10% of the total project costs.

- **A high-value product.** The final product — a 158,000-square-foot, five-story government center, including administrative headquarters and a 418-car garage — is a success and meets all the county's needs.

Groundwork for success on the Loudoun County P3 project:

- The client (in this case Loudoun County) had a clearly defined need for what it wanted to accomplish — consolidation of scattered operations.
- The P3 team offered complementary skills and strong synergy. Everyone moved in the same direction.
- There was visible leadership and strong public support. The project was endorsed and promoted by champions in both the public and private sectors. There was a strong commitment on the public side to get the project done.
- Gilbane offered creative and innovative ways of getting the project done. Having a deep portfolio in project development, financing and ownership helped Gilbane understand how to integrate the myriad components of the project delivery and ownership structure for this deal.

BIGGEST CHALLENGES FOR CONTRACTORS

Interviewees mentioned that owners who lack a deep understanding of and commitment to the process and who keep changing the scope or nature of the structure of the deal can be detrimental to this kind of undertaking. Likewise, owners who try to push all the risk onto the private sector can lose credibility to the point where the economics of a deal start to come apart. Geer explains, "We try to be very proactive with the owner and all of our team partners about understanding who is in the position of managing risk allocation. At the end of the day, if you manage that properly, you are going to get the most cost-effective pricing — no matter where that risk is placed. So that evolution and dialogue, between the owner and the team, is always the one that we find challenging, particularly with a state that is new to doing this."

The competitive landscape here in the U.S. is also starting to transform. According to Walsh Group's Ciambrone, "We're seeing a lot of large international contractors entering the U.S. market, so we're experiencing a globalization of the U.S. P3 market. Therefore, it's becoming difficult for U.S. contractors to compete because they don't have the qualifications — at least on paper — compared to some of these international competitors."

> "It's a complex process and I guess what I would like to see the owners say is 'OK, this is my program, this is my schedule and this is the way we are going to do things'. So don't extend the RFP deadline, don't change the program, don't change the design parameters or requirements further down the road."
>
> *Ed Olsgard, Vice President – Strategic Initiatives, PCL Construction*

Further exacerbating an increasingly diverse competitive environment is the relative inexperience of many new (domestic) market participants. Often, they do not have the necessary in-house capabilities, are not committed to the process or simply do not understand the sophistication of the business. This can also hamper the success of P3 deals, which in turn results in negative press and public misperceptions. Larry Baker, attorney at Watt, Tieder, Hoffar & Fitzgerald (WTHF), explains, "You are going to get more and more people interested in participating in these types of procurements who have no background. And the best advice you can give them is: 'Don't screw it up on the front end because if you do, it's too late and you'll step into quicksand that you cannot escape.'" That said, as domestic players become more educated and skilled on these complex delivery models, the U.S. P3 market will likely grab a stronger foothold and enjoy superior stability and reliability over time. Further, successful partnering can assist the skills transfer between domestic firms, building greater P3 capability and knowledge capital within the U.S.

> "Our biggest challenge is really getting a firm understanding of how real the project is. So basically, the biggest stumbling blocks we face include: poorly defined project goals, poorly drafted agreements and inefficient allocation of the risks."
>
> *Greg Ciambrone, Vice President, Walsh Group*

LABOR ISSUES TO CONSIDER

While public projects bring with them unique labor regulations and constraints, P3s have tended to be singled out as anti-union by some factions, due to the private sector recruiting "leased" employees for public projects, for example. However, some players, such as the reputable investment manager Ullico, have a strong labor policy and labor experience and can add significant value to a P3 consortium, particularly in areas where there is a high union presence. Sonia Axter, managing director, Infrastructure Investments at Ullico, explains, "Our corporate mission is to provide solutions for the union workplace. Our firm believes that union labor creates value. Therefore, our participation can enhance a proposal when the public agency knows that it has someone on the team who cares about union issues and can proactively manage union-related issues during the project." Considering labor issues and related political ramifications is very important when responding to a P3 solicitation; these labor matters often can make or break a deal — long before the proposal is even submitted.

WORKING WITH THE PUBLIC SECTOR

Working with the public sector may present new opportunities as well as unforeseen challenges for many companies otherwise struggling to keep a full

Preparing a proposal for a P3 solicitation can take several months or even years with no foreseeable return on the investment. Successful contractors are therefore strategic and selective about the projects they pursue and the relationships they cultivate with public entities.

backlog. When it comes to P3s, public agencies are primarily looking for innovation, creative financing solutions and ways to bring value from the private-side team. Often, preparing a proposal for a P3 solicitation can take several months or even years with no foreseeable return on the investment. Successful contractors are therefore strategic and selective about the projects they pursue and the relationships they cultivate with public entities.

When forging relationships with public agencies, owners encourage contractors to pay special attention to the particular processes and policies unique to each agency. Dusty Holcombe, deputy director of the Commonwealth of Virginia's Office of Transportation Public-Private Partnerships, states, "The private sector certainly has to make business decisions on where it wants to invest its dollars. I think the private sector just needs to be aware of the fact that there are many different issues, processes and policies in place in these different jurisdictions where it is trying to do business. If it is going to do business in Virginia, it's going to be a little different compared to Texas, and a whole lot different compared to California."

Eugene Schiller, deputy executive director at Southwest Florida Water Management District, has observed and participated in the development of state and local public-private partnerships on the government side for almost 30 years. He says, "Frankly, you (the private sector) need to better understand the dynamics of government entities you are approaching. Local governments, much like for-profit companies, are truly living organisms. They have life cycles; they grow, get sick, grow old and reflect changing economic conditions. You must take the time to understand your client governments' life (history, culture, threats and opportunities) if you are going to have a chance to communicate to elected and appointed decision makers why your proposal is a better option than doing nothing."[2]

At a minimum, Schiller suggests exploring the following questions before approaching a public entity or its elected officials:

- What type of government is in place? How is it organized?
- Who are the elected officials? Who is in charge?
- Who are the key appointed officials (e.g., city manager, chief financial officer, utility director, etc.)?

- What are the financial conditions and long-range plans? Are they able to do a deal?
- How experienced are they with recent bond issues?
- What do the state and local laws look like? Do they have P3 legislation in place?
- What is the media situation? Can you innovate without getting beaten up?
- What does the overall economic climate look like? Can the public entity afford and support a deal?

These are just a few of the many topics contractors need to familiarize themselves with before delving into a P3 partnership. The other major takeaway from the owner interviews is that public-private partnerships are true long-term partnerships. Holcombe explains, "Once you have a partner in place, you've got to come in with a perspective that it is a partner — it is not the other side or the enemy. It is a partner and everyone has a common goal. You may disagree about things, you may not have the same philosophy on how financial or commercial issues ought to be addressed, but you've got to stay focused on the larger picture of how we're going to get this project done and how we're going to work as partners."

A high level of trust and open communication among all project participants is essential to these long-term partnerships. From the outset, owners like to see contractors and other stakeholders be honest and transparent about their financial state of affairs in order to get a better grasp of the risks involved. Michael Heiligenstein, executive director of the Regional Mobility Authority, Central Texas, sums it up: "I think we really have to be clear about where your books are. The more you appear to be in a bunker mentality, the more difficult it would be to develop a long-term relationship built on trust. In our case, we try to set an example of the level of financial openness and transparency required in this market. It is a risk factor that the private sector really has to mitigate — who its partners are and how open they are."

> "I think whether you're on the public or private side, we need to educate ourselves more about our partners' background and business mind-set and learn how to speak each other's language."
>
> ***Marta Bede, Assistant Vice President, Maritime, New York City Economic Development Corporation***

Finally, having a strong portfolio of P3 projects (in various shapes and forms) is often a prerequisite for even being invited to the table. Contractors who have experience in design-build (or similar types of alternative delivery methods) are already ahead of the curve. As mentioned, if you do not have a deep project portfolio of P3s, then building strategic alliances and joint ventures with experienced and reliable companies can be a good way to get started. Heiligenstein adds, "I think good bench strength and experience with our agency's design approach are critical. You want to find partners who are knowledgeable about the process and are able to make sure that before they sign the agreement they understand all contractual obligations and what they are getting into." Eriksson of Skanska Infrastructure Development Americas, adds, "Skanska is probably one

What does the public sector client think about P3s?

The following information, "Tentative Insights from the Ongoing MHC Survey of Government Decision Makers" was presented by McGraw-Hill Construction's Rusty Sherwood at SMPS Tennessee on March 24, 2010:

- 40% expect P3 work in the next three years
- One-third have a high opinion of P3s
- Most important financial aspects: guarantees and default provisions
- Congestion has the highest priority in a decision to use a P3
- Lack of funding is the primary reason to use a P3
- Biggest concern with P3s: unacceptable private profits

of the few U.S. contractors that self-performs more than most other contractors in the P3 space. Even so, you would always subcontract out maybe 40%, 50%, 60% of the work anyway. So, on that level, there is a lot of work to be performed by smaller contractors who might not be able to take on the headline liabilities."

WHERE TO FROM HERE?

Success breeds success and we seem closer to a tipping point than ever. Looking ahead, industry practitioners agree that as more deals are closed in the next few years and more success stories are experienced at all levels — by communities, policy makers and industry practitioners — P3s will thrive. As additional P3 projects come online and demonstrate the value proposition of such an arrangement, states and localities will get a better sense of the benefits P3s offer and can therefore benchmark their efforts against these types of projects more easily.

Given today's economic constraints and the huge need for infrastructure development and replacement in the U.S., P3s are well positioned to become more widely accepted — for both economic infrastructure (e.g., roads, bridges, railways, etc.) and social infrastructure projects (e.g., hospitals, courthouses, water treatment plants, etc.). At this time, there are several RFPs and RFQs outstanding that reflect the trend of owners getting more comfortable with P3s, suggesting that there will be many more projects of this type proposed by government entities in the years to come.

While it is unlikely that P3s will become the dominant delivery model in the future, expect the model to thrive in certain pockets in certain states; it will certainly represent a sizable, robust niche market worth considering in the future. Before delving into the P3 market, though, contractors need to be aware of the many intricacies involved — at the political, public and industry levels — that shape this complex market. Michael Loulakis, president and CEO of CP Strategies, sums this up: "You have to decide why you're doing it." As with any other business strategy, P3s in particular take thoughtful research and long-term relationship building due to the high stakes involved.

Firms like Kiewit, Flatiron, PCL Construction, Gilbane, Clark, The Lane Construction Corporation, Zachry Holdings and the Walsh Group, among many others, are proof that contractors can be very successful in delivering these types of projects in the U.S. As P3 knowledge begins to percolate through midsized contractors, we can expect an efficient, high-quality U.S. brand of P3 to emerge and compete with other delivery methods. For those who know how the game works and who are prepared for a steep learning curve, the potential to change the scope of the future is very real. As one A/E firm executive put it, the P3 market is an opportunity "you ignore at your own peril."[3] ■

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[1] Jerome A Guerra. PSMJ's AEC Issue Brief: The P3 Revolution. PSMJ Resources, Inc. May 2011.

[2] "Eugene Schiller speech. "Why don't they understand?"

[3] Jerome A Guerra. PSMJ's AEC Issue Brief: The P3 Revolution. PSMJ Resources, Inc. May 2011.

Measuring Financial Success

MY PERSPECTIVE SERIES:
REPRESENTING THE AUTHOR'S PERSONAL PERSPECTIVE

Successful financial performance is the result of meeting goals and actions in three areas: operations, marketing and human resources.

By Louis L. Marines

The new economy is more competitive and price-driven and requires that most firms achieve more with fewer resources. Fine-tuning financial performance in operations, marketing and human resources can help an organization become more efficient and high functioning. Three executives shared their experiences in getting through the recession and planning for the next stage.

Financial management of a design firm requires just as much skill as the design of a highly functional community, school or highway interchange. Many people enter the design professions with the intention of improving society by designing more livable communities or creating facilities that are a joy to work or play in, or buildings that are an expression of human dignity and achievement. Few university students in engineering or architecture list "creating thousands of spreadsheets" in their vision of future activities. Yet firms must be run and run well, or none of the benefits that accrue to society from the design professions are possible.

Successful financial performance in a well-run firm is the result of meeting goals and actions in three essential areas: operations, marketing and human resources. These areas must support each other holistically and include elements such as clarity of leadership and a strong vision of the future, integrated marketing and client relations, high-functioning teams, a staff development and leadership succession plan, and a financial approach that works for the firm's size and markets.

The only way to understand whether these elements are functioning as they should is through measurement. Most firms know whether they are profitable or not, but even with today's technology, many companies are still unclear about whether a project is below budget, on track or over budget in any given week. Other firms are not able to say which of their markets is most profitable, whether any of their clients are actually a financial drain on the firm or if staff turnover is too high. Without this vital data, making decisions about the future or adjusting a strategic course can only be based on a guess.

The firm's leaders must decide what information they will need to understand whether systems are holding steady, slipping or exceeding expectations. They must also decide on a process for analyzing the collected data to understand what factors are influencing the results and how the firm will take action:

- What information is wanted?
- Who is going to track it?
- How will it be measured?
- When will measurements be taken?
- What underlying causes can be determined for the results obtained?
- Based on what is learned, how will the firm decide on future actions, and how will these actions be implemented?

Firms often look at industry surveys as benchmarks for guidance. These may be helpful as touchstones, but are only useful to a point. What matters most is that each firm understands how its strategies and competitive advantages result in optimum financial performance over the long term, and these will necessarily be different for each firm's unique circumstances. Relying too heavily on standard formulae — industry averages, medians, maximums and minimums — can cause a firm to underperform for its potential. The industry snapshots widely available are not useful when considering how a unique firm should measure itself against other organizations, as strategies and long-term performance are not revealed in the reported numbers. Basing decisions on such partial information can be risky or even completely inappropriate for a firm's given circumstances.

The kind of in-depth analysis we advocate can lead firm executives to what are often the hardest challenges to face: to stop doing something in the realm of services, client types, geographies or project delivery methods. One challenge is simply recognizing that a given area is no longer contributing to the health of the firm. None of us is immune to the biases that make these choices seem difficult or even impossible. Overconfidence, confirmation bias, risk aversion and a host of other preconceptions can get in the way of making good decisions. Involving firm managers and leaders with a variety of perspectives in these analyses and decisions can help overcome the biases that may hamper a group whose individuals are more homogenous in attitude and experience. A decision to stop doing something also means a related exercise is needed in analyzing and deciding what to do with the human and financial resources that are now available for reinvestment elsewhere.

FINANCIAL SITUATIONS IN THE REAL WORLD

We talked with three leaders about their approach to managing the firm's financial health over the past few difficult years. Each of the three firms faced a unique situation and had to react and adapt to the new conditions presented by the recession and post-recession environment.

Judith Nitsch, CEO of Nitsch Engineering, Boston, Mass., told us that, "Nitsch Engineering felt the downturn begin in 2008, before many other firms, since land surveying always seems to be the 'canary in the coal mine.' During 2008 we developed a plan to be sure we were poised to do the right things instead of just reacting when the economy collapsed. We instituted our plan in March 2009, including these cost-saving measures: laid off five employees, reduced salaries for the chairman by 10% and for directors by 5%, had some employees go on a reduced workweek, and eliminated unnecessary travel and expenses. We repurposed our summer outing to be monthly fun events for staff, held in the office and organized by different departments. Despite tightening our belts, we maintained our marketing efforts in those markets that we had forecast to be the most lucrative.

"Due to our reduced sales volume and backlog, we decided not to give our annual staff raises in October 2009. Then we began to see signs of improvement at the end of 2009, and we gave those raises retroactively in spring 2010. During this period we reached out to all of the employees who really made a difference in helping keep us in a strong position, making sure they understood that we appreciated all of their efforts to make the company as resilient as we were.

"One example of an employee making a difference was the manager in our Transportation Department, who brought in several large city and state projects, which made up the reduced volume being experienced by our civil engineering and land surveying departments at that time."

Overconfidence, confirmation bias, risk aversion and a host of other preconceptions can get in the way of making good decisions.

Nitsch was clearly following the basic principles of balancing operations, marketing and human resources in the best way possible given the unstable conditions from 2008 to 2010.

This return to basics was employed by all three firms we talked to as well as many others who spoke with us during the course of the year. Glenn Bell, CEO of Simpson, Gumpertz & Heger (SGH), a structural engineering firm with offices nationally, said, "We have had three years (2009–2011) of essentially flat revenues with neither any growth nor shrinkage in overall staff. When the economy tanked, we pulled in our horns and focused on good, conservative fiscal management. We deemphasized markets that were weak and pushed harder in stronger markets. As a result, our profitability has been good."

Pamela Anderson-Brulé, principal of Anderson Brulé Architects (ABA) based in San Jose, Calif., said, “We went back to our basic ratios — how much rent should we be paying versus our revenue, how much revenue we should have for our number of staff — the basic frameworks of the model. We wanted to know what should the model be and how do we get there. We completely changed our rent basis and went through some tough negotiations. We also had to disengage our personal expectations from corporate expectations — the firm had to come first. We had to look hard at overhead and make some tough decisions. ABA had a great human resources person for 20 years, who was also a personal friend, but the numbers told us it was impossible to keep her — we had to cut in order to keep the firm alive. When I finally sat down to talk to her about it, she knew — probably before I did, that it didn’t make financial sense for her to stay.”

Many firms were also forced to cut staff development programs, but Glenn Bell said that SGH “focused on maintaining and training the excellent staff we have and on client relationships. We improved our operational efficiency significantly, making sure everyone was productive and that some people were not overloaded while others didn’t have enough to do.” This attention to balancing workloads and continuing staff development helps boost retention and maintain teams that have built working practices, knowledge and efficiency over the course of years. Losing members of such a team is always costly.

> **Attention to balancing workloads and continuing staff development helps boost retention and maintain teams that have built working practices, knowledge and efficiency over the course of years.**

Once these firms had gone back to basics, creative changes in strategy came into play to help the firms move on.

Nitsch described to us how the firm put together a strong, creative marketing effort at a low cost and ended up having its best year ever. “We created an internal slogan for the year and put it at the top of every weekly operations meeting agenda: ‘Focus on activities that will keep us profitable and bring in profitable work.’ We expressed to employees that if they focused on making each project profitable, the company would be profitable also. The result was that 2010 was our best year ever; both top line and bottom line, and 2011 will exceed that. We expect to gross more than $10 million for the first time.”

As a special marketing effort during this time, the firm made creative use of its 20th anniversary celebration to create high visibility at a low cost. “We thought having a client party would be too expensive and give the wrong message in these tough economic times, so we developed a list of activities that we would do over the 12-month anniversary year, from September 2009 to September 2010. We started with brainstorming on what we wanted to achieve with our anniversary celebration and those goals included:

- Reach clients and potential clients
- Have proud and motivated employees
- Find out about project opportunities and win profitable projects
- Gain market share
- Foster more awareness of all our services
- Have a positive impact on our bottom line
- Have a sustainable campaign
- Be memorable — don't just do what everyone else does
- Look attractive to potential employees

"We then developed a theme for the year — Celebrating 20 years of Wonderful Projects, Terrific Clients and Fabulous Employees! — and formulated that into a series of monthly events. The pinnacle client events were four seminars targeting the teaming decision makers and highlighting Nitsch Engineering's services in markets we knew would be expanding. We provided AIA, ASLA and GBCI credits, which we knew would be a draw for attendees. These seminars were so successful we held them again in 2011.

"To save money on monthly activities, we repurposed several of our typical annual events to fit into our theme, as well as aligned them with our tag line, 'Building better communities with you.' Our additional expenditures for the year's anniversary events were only about $38,000, yet we saw a significant increase in teaming opportunities, and 2010 has turned out to be our best year ever."

SGH took a different strategic approach to preparing for future growth. "Last year we started making investments in growth, capitalizing on opportunities created by the recession," said Bell. "We made one firm acquisition and are consummating several high-level recruits in strategic areas that we have identified. We expect to return to growth in 2012."

Anderson Brulé Architects took an even more challenging direction: "We ended up creating two firms from one," Brulé said. "We went through a period of careful evaluation where we loaned some people out in the hopes we could bring them back when the economy improved. We found positions for others at various firms. Then, finally, we decided to spin off a group of our staff to form a second firm. We gave them equipment, projects and people. It was a difficult and emotional transition for all of us and took about 30% of my time for an extended period. However, we are now the right size, the spin-off firm has a chance to set its own direction in the world, and it was the right thing to do."

This is the kind of challenge that illustrates the earlier point about identifying what the firm needs to let go and then doing it in a strategic way. It would certainly have been easier for ABA simply to lay off the excess staff, yet the firm gave this group of employees a chance to remain together as a team and determine its future as a firm. Retaining close ties with a spinoff firm could provide any organization with the kind of mutually supportive relationship more typically found in a long-term strategic alliance.

With the exception of a few markets (e.g., health care), project funding continues to be highly uncertain. One of the stories heard most frequently this year from CEOs and senior executives across the board at engineering, architecture and construction firms is that of project uncertainty and instability. Projects start, are put on hold, then start up again. Some lose funding from one source only to get funding from somewhere else. Other projects change the dynamics, if not the actual goals.

Glenn Bell confirmed this perception. "We have little influence on whether projects move forward or not, except to do the best possible job for our clients to ensure the job is successful. You don't want to be responsible for project delays, because those delays can put the project at risk. Given the relative uncertainty in project continuance, the challenge has been nimble workforce management. In the past three years, we have improved our ability to react to change and keep our staff fully utilized in a chaotic environment."

> **One of the stories heard most frequently this year from CEOs and senior executives across the board at engineering, architecture and construction firms is that of project uncertainty and instability.**

Nitsch Engineering re-evaluated its marketing strategy and shifted gears in order to bring work in during the recession. "Nitsch Engineering has always had a marketing plan that supports the firm's strategic plan," said Judith Nitsch. "We look out several years to understand the upcoming 'hot' markets. Public K–12 schools was one upcoming market we had identified in the mid-2000s. We already had a large portfolio of successful school projects and we learned that a new state law would be requiring Woman-Owned Business Enterprise (WBE) participation on upcoming projects. Focus on that market would clearly be a good strategy for us. We had stayed in touch with all of the school architects even when they had no work to speak of. As the new school program was getting under way, we sent an email marketing mailer to architects, OPMs, CMs, LAs and others reminding them of our K–12 experience. The result was that the school market flourished for all of our disciplines in 2009–2011. In analyzing the school contracts awarded in the state over the past few years, Nitsch Engineering provided services on 63% of them."

Not only has Nitsch Engineering identified and leveraged this particular opportunity, the marketing plan has identified 34 client organizations they encourage employees to join, with specific goals for their participation. This puts representatives from the firm in regular contact with clients and potential clients. "We encourage employees to become active in client organizations, like AIA, ASLA, USGBC, SCUP, WTS, ACEC, NAIOP and others, each of which has an employee who is that organization's internal champion. They are expected to join, attend meetings and become active on a committee or the board of the organization. Long ago, the firm's leaders adopted a 'divide and conquer' attitude about client organizations: One [internal team] tends to focus more on public sector clients/projects and the other on private clients."

Having a targeted focus on "the opportunities that were likely to be available to us" has strongly benefited Nitsch, as has the presence of a good rainmaker: "We have one department head who is exceptionally good at scouting out project leads and getting our firm in front of the developers or architects for those projects. The combination of client-focused teams and a strong rainmaker has helped us get 'more than our share' of the few projects that have been developed over the past several years.

"Private projects tend to be more profitable but we knew project opportunities would be slim. The firm went from 45% public sector work in the mid-2000s to 70% public work in 2010. Our workload related to our being a WBE went from 11% of revenue to almost 30% in 2010; it went back down to 21% in 2011. For Nitsch Engineering to be known as a great engineering firm is more important than being a great WBE firm, but we were happy in this recession that we had that differentiator."

The recession has forced many firms to re-evaluate their basics. Setting clear marketing goals that match up with the reality of the marketplace, leveraging membership organizations as marketing and client relationship opportunities, supporting the firm's best rainmakers and using advantages like WBE status — even if it is not usually a key element of the firm's strategy — all worked well for Nitsch Engineering, as it posted its highest gross ever in 2011.

Anderson Brulé Architects faced a dramatic shift in its market and has altered the firm's strategy to be much more targeted. "As far as getting work, it is the same old same old," Brulé said. "You have to call people, talk to them, understand their needs. We actively look for partnering strategies with other firms that don't want or can't offer what we do. We can't count on anything anymore, so we can't relax. At one time we had a 60% to 75% hit rate. Now it's about 30% percent, so we have to pursue more work to make up the difference. However, we also need to be pickier.

"We are pursuing smaller jobs and because we're a smaller firm now we can tick along on those. We are less likely to pursue big projects — it ties us up too long. We are moving faster now and if conditions do improve, we don't want to be tied into a long contract at an old rate.

"There is a tremendous amount of tension between what clients need done right now and what their budgets are: In effect they have a $20 need but only a

$5 budget, and are under pressure still to get $20 of value. But going with the lowest bidder can be risky. One of our clients told me this week, 'When we work with you, we know we'll get what we pay for. We'd rather work with someone we know will do quality work than to take the lowest bidder and have to redo the work in a year because it wasn't done right.' We have to find the right clients for what we are now, which is difficult on the public side.

Millions of empty homes and declining home values continue to drag down the U.S. economy and hold state and municipal tax revenues at lowered levels.

Going forward we continue to face uncertainty at every level. Millions of empty homes and declining home values continue to drag down the U.S. economy and hold state and municipal tax revenues at lowered levels. Without the emergence of an immense pool of potential homebuyers to replace those with a foreclosure on their credit reports, no relief will come from that corner. New economic strength and public revenues will have to come from a different direction, but what that will be is not yet obvious."

"Our goal for 2012 is resumption of growth," said Bell. "While nothing in the economic or market outlook tells us we're out of the woods and this is going to be easy, we're making a commitment to growth in an uncertain environment. We are not changing our fundamental strategy for capturing work, but we are emphasizing the following:

- Each principal has committed to certain stretch revenue goals for next year.
- Pairs of principals who offer different services or who are in different markets are cross-selling and working together to pursue projects where they each bring something needed to the table. We call the combination of market niches 'super niches.'
- We are looking creatively at how we can bring traditional skills to new markets that appear to be strong."

At Anderson Brulé, the smaller, highly efficient firm size and ability to react quickly are working well as a response to the current market conditions. "Our firm went from being a battleship, to being a tug boat, to being a speedboat. We had a highly efficient, strong firm, but as the economy changed, we had to become even more efficient," said Brulé. "It was important that we redefined our needs and focused on those as well as to refocus on today's reality. We only lost money one year during the recession and it wasn't much, so this is working for us. Looking to the future, we think conditions will be like this for some time to come. I'm not sure things are ever going to go back to the way they were, so we're going to continue to operate as though these conditions will be indefinite. Going forward we will stay in 'speedboat' mode, smaller, faster, leaner."

Going forward, Nitsch Engineering is entering a new market that puts the firm earlier into the project process. "We hired a new director of planning in September 2010 to grow and develop that service. We feel we have saturated the market for our civil engineering and land surveying services in Eastern Massachusetts, but planning will allow us insight into projects earlier in the pipeline. This work builds on our successful stormwater master planning services we have provided through our civil engineering department on projects throughout the country for more than 10 years."

Nitsch engages everyone in planning and monitoring financial performance, which builds employee engagement and involvement in the firm and helps it spot financial problems early. "We have found that engaging all employees in planning ahead for the firm gets and keeps them interested and motivated to help orchestrate our firm's success. We are an open-book company, so we share our financial performance with all employees annually, with project managers quarterly and with the firm's leaders monthly. That ongoing scrutiny also helps to identify potential surprises before they occur."

The firm also plans to continue leveraging unique marketing and branding opportunities. "Our long-planned January 2011 leadership transition of Lisa A. Brothers, PE, LEED AP BD+C to president and CEO of Nitsch Engineering gave us another opportunity to reach our clients and referral sources. We mailed an announcement to 9,800 contacts, sponsored email newsletters read by clients and positioned her to speak both locally and nationally. As I transitioned to my role as founding principal, focusing on business development and client relations, I reached out to our top clients of both 2010 and historically, creating another reason to speak with clients to remind them how important they are to us. Nitsch Engineering is known as a marketing-oriented firm, and that focus has helped us weather the recent downturn and won't change in the future."

To identify their best approach for surviving the recession, each of these firms has reviewed operations, human resources and marketing and refined them to create the best financial success possible under difficult conditions. By carefully measuring what works and what does not for the unique circumstances of each firm, they are able to constantly adjust and achieve better efficiency. These companies are leveraging innovative marketing ideas to make themselves more valuable to clients, and seeking new ways to serve those clients, giving their firms the best opportunities for success in a challenging marketplace. ■

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