

Quarterly

FMI

ISSUE THREE

2014



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Quarterly

FMI

ISSUE THREE

2014



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Dear Reader,

**We have some
changes for you
in this issue.**

First, you will see that we have more articles than usual, and most are shorter than what we have historically produced. In our third and fourth issues of 2013, FMI's 60th anniversary celebration, we provided a total of 60 articles. Your response to those shorter articles was overwhelmingly positive! As a result of that response, we have decided to modify our format so that we can continue to provide you with short articles supplying **insights** of FMI consultants, investment bankers, our clients and our sponsor, Zurich. Additionally, we have relaxed our topical restrictions in order to bring you more variety in each issue. We hope these changes mean improved and more focused information for you. We welcome your reaction to these changes.

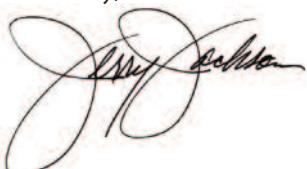
One final change, due to the increased number of articles, my letter will no longer cover a listing of articles and authors. Please review the table of contents for that information. Instead, I will single out a few articles from each issue that are my early-read suggestions.

All the content in this issue is worth your time to read. It is FMI's hope that we never publish material that is without value. However, we understand that your time is precious, and sometimes you may want guidance as to what you should read first. With that as my intention (and fully understanding that I may annoy a writer whom I did not pick as a first-read), here are my top-of-the-heap choices for this issue:

- Sal DiFonzo and Sabine Hoover's article, "Increasing the Effectiveness of Incentive Compensation," especially because of the case studies they include.
- Kevin Haynes', "Alberta's Market Powered by Oil and Gas," because it underscores the activity stemming from oil and gas, whether you are a Canadian player or not.
- Stephen Boughton's, "Selling Your Local Flavor," which will appeal to local and regional players.
- Paige Ferguson's, "Future Shock: Maintaining the Balancing Act." This is a second part to the article, "Future Shock," which ran in 2014 Issue 2. Read that one first if you don't remember it.

Remember, all of the articles inside are worth reading. These few were singled out as good places to begin your consideration of this issue. Feel free to pick your own place to begin!

Sincerely,



Jerry Jackson, Publisher

Involvement begets commitment. Providing an incentive opportunity to your employees will help them focus on what is important and support their commitment to company success that the vast majority of respondents desire. Incremental improvements of the majority of employees will have significantly more impact on the company success than incremental improvements of only a few employees.

SAL DIFONZO AND
SABINE HUYNEN HOOVER

Increasing the Effectiveness of Incentive Compensation: Success Stories in the Construction Industry

H

aving an effective incentive compensation plan in place can mean the difference between success and failure in today's competitive business environment. With economic conditions improving and an expanded number of job choices opening up for construction workers, the importance of developing structured compensation plans based on measurable criteria and centered on employee performance and development will only increase in the coming years.

Though U.S. construction companies have long embraced the pay-for-performance culture, today's industry compensation model remains predominantly discretionary (see FMI's "Incentive Compensation Effectiveness Study — the 2013 U.S. Construction Industry Incentive Compensation Survey"). Based on FMI's research, for the incentive to be effective, employees should know what their bonus opportunities are — and what it takes to achieve those targets — in advance. In fact, the old "trust me" catchphrase is no longer effective in motivating employees to outperform, nor is it a compelling argument when recruiting and engaging new employees.

By creating incentive compensation plans that support their strategic objectives, help them attain their long-term goals, provide desired returns and

behaviors, and yield real results, firms can move out of “reactive” mode and take a proactive approach to incentive compensation. As competition for limited labor and talent intensifies in the years ahead, having a well-thought-out incentive compensation plan in place will likely become a key differentiator in company performance and overall company value.

Sal DiFonzo, managing director of FMI’s compensation practice, adds, “In a 2013 FMI study of incentive compensation effectiveness (Knesl, DiFonzo and Warner), contractors who utilized structured incentive plans reported them to be three times more effective than those who continued to use discretionary plans.”

The following paper highlights how two different firms are effectively tackling this very important issue of incentive compensation. The article also presents best practices on how to get started with this kind of strategic endeavor.

SUCCESS STORIES: Testing the Waters of Incentive Compensation

The following case studies highlight the efforts of several construction firms to create and administer effective incentive compensation programs. FMI interviewed company executives to explore their strategies, discuss what actions they’ve taken, and find out how the new and/or revised plans are working out for the organizations and their employees.

CSRS, Inc.: Setting and Sticking to Targets

Established in 1978, CSRS, Inc. is a leader in the delivery of infrastructure and facilities serving public and private organizations across the southeastern United States. The company took a somewhat arbitrary approach to distributing bonuses until management decided that its nonexistent bonus plan was no longer feasible. Co-owner Chris Pellegrin said, “We were very subjective with any sort of bonuses and disparate across the company as to how those bonuses were distributed.”

The purpose of FMI’s compensation survey was to evaluate the effectiveness of current incentive compensation practices most commonly used in the industry. Some of the key research findings include:

- Discretionary incentives that are offered by most construction companies are perceived as ineffective.
- Only 37% of construction companies use industry market data to ensure adequate incentives.
- Most construction companies are not using incentive compensation to support and reach key goals.
- Each company that offers incentive compensation has a unique plan to address its needs; there is no single-best way to effectively incentivize the workforce.
- Certain key elements cause incentive compensation plans to be effective.

In 2012 when CSRS decided to improve its performance review process, the company's bonus plan also came under scrutiny. "We were trying to get more deliberate with our performance reviews," recalled Pellegrin. "That evolved into a compensation plan that allowed us to start conducting a broader distribution of bonuses in order to reward our employees for their efforts."

In Search of a More Formal Process

In early 2013 the firm's owners and managers hired FMI and started developing a plan. Ten months into the implementation of that plan, Pellegrin said he has noticed a number of positive results stemming from the firm's newfound commitment to compensating employees for a job well done. "It has motivated some of them to follow through on their efforts," Pellegrin points out. "So many times when a new initiative launches, the initial momentum is strong, and then it sort of fizzles out when everyone gets busy with other projects. Now that we have tied some of these efforts to our bonus plan, I've seen more projects followed through to completion."

Additionally, Pellegrin said the plan has helped company managers formalize a process for meeting with their employees on a more frequent basis (rather than just once a year for an annual review). "Two or three times during the course of the year, we are prompting managers to meet with their direct reports to go over how they're doing on their individual targets," said Pellegrin. "That opens up the opportunity for more dialogue between manager and employee."

Opening the Doors

As a tightly held entity, CSRS hasn't historically been forthcoming with its financial data. "It's always been a group of owners in a closed room talking about profitability," said Pellegrin, who has seen that "close to the vest" way of thinking shift slightly since performance reviews were ramped up and a bonus structure introduced. "In the past, profitability wasn't really a companywide topic of conversation and now it is," said Pellegrin. "That's positive because everyone gets in on the topic. Accounting has one more reason to get the quarterly numbers out on time because everybody on staff is anxious to see how we're performing."

So many times when a new initiative launches, the initial momentum is strong, and then it sort of fizzles out when everyone gets busy with other projects.

The same level of visibility applies to CSRS's bonus plan, which was rolled out in December of 2012 at a corporate meeting and later introduced to each division individually. "We did that to get some Q&A going," said Pellegrin. "It was well-received and looked upon as 'new and exciting' for employees who would finally have the opportunity to be recognized for their performance above and beyond just salary."

As part of that rollout, FMI came on-site and conducted a half-day session with all company managers or "business unit leaders," as CSRS refers to them. "We went into detail about the plan to make sure everybody knew the rules and the processes," said Pellegrin. "Through FMI, everyone received a pretty good tutorial on the measurable targets, how the program works, and examples of it in action."

As with any type of cultural change, CSRS has also faced a few struggles in its quest to implement a new bonus program.

As with any type of cultural change, CSRS has also faced a few struggles in its quest to implement a new bonus program. Setting targets that align with the plan itself, for example, hasn't been easy for the firm's owners and managers. "Trying to go above and beyond the day-to-day activities to figure out what types of things are measurable has been our biggest challenge," said Pellegrin.

To work through that challenge, Pellegrin said that all business unit

leaders met with their staff members in 2013 to review goals, make sure past goals were still applicable and reconfirm the measurement approach. Also assessed were individual targets for the year across all six of the company's key business lines. "When we sit down at the end of the year with the employee," said Pellegrin, "we don't want to argue over if someone met his or her goals ... or not. We want it to be black/white, yes/no, with no question as to the result."

Key Success Strategies

- Get owners, managers and employees involved from the start in the process of setting up a bonus program based on individual performance.
- Don't be afraid to open the doors to the owner's suite and allow someone other than the company leaders to take an interest in the firm's profitability.
- Have managers conduct three or four one-on-one meetings with employees throughout the year to see if the plan is on track and/or if anything needs to be adjusted.

- Be very clear when setting goals for individual employees to avoid eleventh-hour arguments over whether targets were met or not for the prior year.

Bergelectric Corp.: Kissing Holiday Bonuses Goodbye

When Jennifer Davis came onboard as Bergelectric Corp.'s new vice president of HR in 2012, the company's incentive plan was ripe for an overhaul. "The CEO wanted to change the plan and implement something new," said Davis. Ready for a new approach, the company started exploring its options and considered the help of a third party.

"We met with FMI to see what kind of services it could provide and then ended up engaging its Compensation Group to help us overhaul our incentive program," says Davis. The implementation originally kicked off in 2012 but wasn't officially put into effect until February 1, 2013, (the start of the firm's fiscal year). It replaced an existing incentive arrangement that was largely based on employee tenure. The plan lacked transparency, according to Davis, and basically centered on holiday-oriented bonuses. "Everyone had the mindset of, 'Well, it's around Christmas, so where's my bonus?'" said Davis.

A Major Shift in Thinking

After years of relying on a tenure-based approach to incentives, Bergelectric did a 180-degree turnaround in 2013 and put together a plan that was based on a mix of company and individual performance. It incorporated key performance indicators (KPIs) for specific positions and specified measurable objectives that — when attained by employees — equated to a bonus. "If they did well, they'd get a bonus," said Davis. "And if they hit it out of the park, they'd get an even bigger bonus."

Davis said the tangible nature of the plan makes it particularly attractive for employees. "Not only do people know what it is now, but also they can touch it, feel it and see it," said Davis. "They know what the numbers are, and they see for themselves how they are tracking throughout the year." But what about those employees who came to love those holiday bonuses? Davis said some of them were upset with the new arrangement.

After years of relying on a tenure-based approach to incentives, Bergelectric did a 180-degree turnaround in 2013 and put together a plan that was based on a mix of company and individual performance.

"The timing of the bonus payout reflects our fiscal year, which means employees won't get their payouts until early April 2014," Davis acknowledges. "As a result, the group mindset has had to shift to adapt to this change."

Offsetting some of that concern on the part of employees is the fact that the compensation plan itself is transparent and clear-cut. "Our team knows what the numbers mean, what their targets are, and where they stand at any

given time," said Davis. "So while this approach is going to be negative for those who just 'showed up' for work, it will be extremely positive for anyone who is performing at or above expectations."

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outset — and then tweaking it slightly when needed — was a vital first step in the process. "They told us to be wary of starting off with one approach and then scrapping it for something else the following year," said Davis. "The idea is to introduce and maintain consistency; that's how you get buy-in."

When developing the KPIs for its new bonus plan, for example, Bergelectric looked carefully at the value and productivity provided by the firm's field management staff. "We are performing work all across the U.S. and on different jobsites, and we've put a lot of effort into making sure that our front-line supervisors understand the bonus program and how they impact the bottom line," Davis said. "That's the group we're really looking to bump up, and so far, they're embracing the program."

Striving for Success

As Bergelectric's fiscal year-end begins to come into view, Davis and the rest of the company's HR department will be focused on the KPIs and other measures associated with its new bonus program. And while some employees may have mourned the loss of their Christmas bonus for year-end 2013, Davis

Setting up the Program

Davis credits FMI with taking the reins on Bergelectric's bonus plan project and helping her company successfully develop and introduce the new approach. "The team that put this together is made up of pros who really know what they're doing in terms of compensation and bonuses," said Davis, who quickly learned from FMI that laying out a complete, comprehensive plan at the

is confident that the new plan will eventually be well-received and also extremely beneficial for the company as a whole.

To other companies looking to improve their own incentive programs and get employees thinking outside of the “all I need to do is show up at work” box, Davis said operating with an experienced third party like FMI’s Compensation Group helped keep the project on track and moving in the right direction.

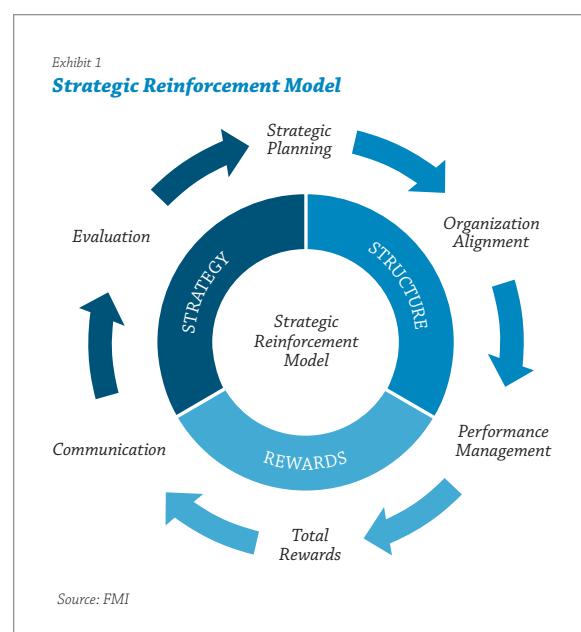
“What we were trying to do was a bit crazy, seeing that some of our policies had been in place for 30 or 40 years,” she explained. “Overall, it’s been a positive experience being supported by an FMI team that communicated well during meetings, shared a lot of information and offered up a high level of expertise that we were able to leverage to our advantage.”

Key Success Strategies

- Develop key performance indicators (KPIs) and relate them to individual positions within the company.
- Use those KPIs to measure performance and award bonuses accordingly.
- Look at the plan as a work in progress rather than an end-all solution to human resources challenges that have existed within the organization for years.
- A cultural shift takes time. Be mindful, yet firm, in how you implement the new policies and guidelines.

Best Practices for Getting Started

As shown by the previous case studies, there is no clear or carved-out path to success on the route to developing an effective incentive compensation plan. Some firms create their programs from scratch; others dust off their existing approaches and upgrade them to modern-day standards; and still others attempt to round out their current strategies by adding new-and-tested techniques to the mix. Regardless of how your firm gets from Point A to Point B, there are a few solid strategies that should be followed in order to achieve success.



A successful incentive compensation program begins with designing a reward system that supports and compensates the achievement of strategically important initiatives. In other words, begin with the end in mind when designing an incentive compensation plan. Determine what behaviors and outcomes are most important for the company's success, for example, and then decide which of those activities warrant paying incentives for.

When developing your incentive compensation plan, be sure to include a team of key leaders who will drive the design effort at all levels within the organization from the start. Key elements of this process include:

- Determine eligibility for the plan
- Benchmark labor market data to set target incentives
- Select performance measures and assign their weightings
- Establish threshold, target and excellence performance levels
- Run cost models to calculate pro forma, expected and maximum payouts
- Document the plan
- Introduce the plan and communicate the incentive opportunity
- Measure results
- Provide periodic feedback
- Assess plan effectiveness

Finally, pay special attention to the timeline for changing an existing compensation plan. As shown in the case studies in this article, abrupt replacement of or changes to a long-standing plan can create turmoil for employees that for years have been accustomed to a "certain way" of doing things. Be sure to factor in your current plan, the state of that plan and your corporate culture as you design how you will introduce and implement change.

DiFonzo adds, "FMI advocates the use of a design team consisting of five to eight business unit or line managers to help develop performance measures and associated weightings. Including key leaders in the design process, with soundly established design rules, will assist in the buy-in from the organization. Design team members represent their constituents and can report back that they were represented, and that the plan is acceptable."

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Conclusion

Because it links rewards to performance, incentive compensation is a critical tool for aligning employee goals with overall business objectives. Communicating and tracking each employee's progress against company objectives often translates into better employee engagement and a clear understanding of how daily activities affect the overall company health. The result is both individual and organizational success.

Progressive construction firms — such as the ones presented in this report — are taking charge and increasing company performance through well-defined incentives that motivate their employees to go beyond the call of duty.

Business great Jack Welch of General Electric believed that management's ultimate goal should not be to motivate employees to perform but to create an environment where going beyond the call of duty is the norm. An incentive compensation system helps companies develop employees who excel at maximum (and beyond) levels. With the right combination of clear direction, quality feedback and tangible rewards, employees become engaged and satisfied with their jobs. This, in turn, helps to create a win-win situation, where employees are inspired by the fact that management truly values their efforts.

As competition for limited labor and talent intensifies in the years ahead, having a well-thought-out incentive compensation plan in place will likely become a key differentiator in company performance and overall company value. Winners will be able to recruit and retain top talent, post higher levels of performance throughout the company, and increase revenue and profits. Now is the time to act and reinvent your incentive plan and build a company fit for the future. **Q**

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SCOTT MOYER

Honing Your Workforce Development Plan

Workforce development is a topic that is on the mind of many contractors across the nation as they look to their benches and find dwindling numbers of skilled laborers to actually put work in place. The question continually heard is, “Where are these workers coming from?” With most high school graduates looking to attend institutions of higher ed and then move into professional positions, skilled labor is being overlooked and passed on by many job seekers today. This is especially true in Louisiana, where the oil and gas industry has created a boom of growth.

So what is the industry going to do? That’s a question Tim Johnson, president of TJC Consulting in Baton Rouge, La., has been answering over the course of his professional career. Johnson has been working in the construction and petrochemical industry for 24 years. During that time he worked for the Shaw Group, was executive director of ABC Baton Rouge, and is now founder and president of TJC Consulting. Johnson is on the Louisiana Workforce Commission whose goal is to find, train and staff the benches for companies



Tim Johnson

building new facilities in Louisiana.

In this interview, Johnson provides valuable insights into the fine points of workforce development:

Scott Moyer: Tim, thank you so much for taking the time to speak with me today. Louisiana is going through an interesting time with extremely high volumes of construction work popping up all over the state. With your construction background and your current work as a consultant and member of the Louisiana Workforce Commission, you are uniquely poised to provide great perspective on the job situation. Can you share with us what is going on to recruit and train workers for the state?

Tim Johnson: Yes, I will tell you that obviously there is a massive effort underway in the state to recruit and train the next generation of construction craft professionals. We've got a baseline of about 100,000 craft workers in Louisiana. Based on the amount of economic development that's already been announced, which is (depending on what you read) somewhere between \$60 billion and \$80 billion worth of work that could take place here over the next three to five years, the state believes it will need an additional 35,000 full-time equivalents in terms of construction craft professionals.

If you factor in normal attrition rates, and you try to make them full-time equivalents, the state thinks we may need to recruit and train as many as 80,000 people over the course of the next five years. So there is a real comprehensive, coordinated effort going on among the governor, his administration, the Louisiana economic development, the Louisiana Workforce Commission, the contractor community in Louisiana, the owner community in Louisiana and the Louisiana community and technical college system. So it's really divided into four different subcommittees — training and development, high school outreach, retention and recruitment.

There is a group working on the training part of it, and that involves the Louisiana community and technical college system. It involves the ABC chapters and their training centers. It involves organized labor, their apprenticeship programs and really a lot of coordination from a training perspective. That's one subcommittee.

There's another subcommittee on what's called high school outreach. They're going into the high schools and bringing career training. Students are more job-ready when they come out of high school in terms of the construction

There is a massive effort underway in the state to recruit and train the next generation of construction craft professionals.

industry. On that note, the state Department of Education is an accredited training sponsor of the National Center for Construction Education and Research (NCCER). In other words, if juniors and seniors in high school are taking NCCER pipefitting, welding or electrical courses, they're actually getting credit toward high school graduation for those classes. So a lot of effort is going into having more of those classes taught and upgrading the quality of those classes.

There is another group that I'm involved with and chairing; that is the retention subcommittee. We're looking at these attrition rates and saying if we need 35,000 full-time equivalents and we think we're going to have to recruit 80,000, is there a way we can do some things from a retention standpoint and a best practice standpoint to try to reduce the attrition rates so that we don't have to recruit and train so many people?

And then the fourth subcommittee is just basic recruitment. The state has adopted the NCCER's Build Your Future campaign, all of its materials and its website. Louisiana is the first state where NCCER has gone in and customized its Build Your Future program for a state. We've got our own domain on the Build Your Future website. And there's a program that's been developed called Build Your Future, Build Louisiana.

This whole statewide coordinated effort is broken down into training, into high schools, into recruitment and into retention.

Moyer: So you have four main areas that you are focusing on. With the first focus of getting new entrants into the workforce and needing a number like 80,000, about how many do you think are coming from the state or Gulf Coast, and how many are you hoping to bring into the area?

Johnson: Let's think about it in terms of the 35,000 full-time equivalents. We know that some percentage of those will be people we bring in from outside of the state, including Texas, Alabama, Mississippi and other states. But we hope that a significant number of the 35,000 are young people or midcareer adults, (returning military is a critical part of the recruitment piece of this), so that we can provide a significant number of these opportunities to Louisiana residents. We know we're going to have to bring some in, but we're hoping that, for the

If you factor in normal attrition rates, and you try to make them full-time equivalents, the state thinks we may need to recruit and train as many as 80,000 people over the course of the next five years.

most part, we can get most of these individuals from Louisiana.

Moyer: And with such a high number of people who are entering the market, obviously that creates a demand for managers. Is there anything that the state or that your committees are doing to help train or build future leaders?

Johnson: There is no question about that. That is a big topic of discussion. Let's back up before we talk about the leadership, because one of the things we're also focused on is what we can do in terms of the skill upgrades, skill improvements, skill gap training for the existing construction workforce in Louisiana — the existing construction craft professionals. We believe that if we can put some skill upgrade training in place and improve the numbers of certifications that these individuals have, that you could see as much as a 10% improvement in productivity among the existing craft workforce.

We believe that if we can put some skill upgrade training in place and improve the numbers of certifications that these individuals have, that you could see as much as a 10 percent improvement in productivity among the existing craft workforce.

And here's what we know about that group. We don't have to spend a dime to recruit them. We don't have to put them back through full training programs. These are existing craft professionals, people who have already chosen to be in the field and who have already chosen to be trained and have significant skill levels. So we think that doing some upgrade training on the 100,000 who already exist can solve a significant part of our 35,000-person problem or issue.

Moyer: I'm glad that you brought that up. Who would be in charge, or who is going to do the training for these workers who are currently already working in the state?

Johnson: Well, it will be a combination. The training will be done by the same groups of training

providers who will train the entry-level people. The Louisiana community and technical college system will be heavily engaged. The two or three major ABC training centers will be heavily involved in the skill upgrade training. I know that the organized labor will be doing some skill upgrade training as well. So that skill upgrade training will be very similar in terms of delivery to what we see with the entry-level group.

Moyer: Is there any encouragement to companies to put people through

that or tax breaks or anything else to encourage companies to get their employees into this training?

Johnson: There is an existing tax credit in the state of Louisiana that says if you can get an individual through a union apprenticeship program or through the first year of a union apprenticeship program or through a couple of levels of the NCCER curriculum that the contractors can access a tax credit that exists for those individuals.

So there is some incentive for that. The real incentive that exists is that these individual construction companies recognize clearly that the more well-trained their existing workforce is, the more productive they're going to be and the more competitive they're going to be in the marketplace. So the real incentive is the economic incentive that the individual companies have.

Moyer: And I imagine that part of the initiative is just getting the message out there and doing some marketing to allow companies to know that there is training for their employees to take part in.

Johnson: Yes, and a lot of that's taking place. I've said this often as I've traveled around the country and talked about workforce development in terms of construction craft professionals — the entire United States has a deficit. We've seen numbers that have come from FMI, from others and from the NCCER that say the skilled construction craft professional gap in the United States could be as many as 1.5 million workers.

So it's an issue everywhere you go. And it's going to be particularly acute along the Gulf Coast. But if there is any U.S. state that is well-positioned to address this issue in a coordinated way, it's the state of Louisiana because of the way that the owners' groups work with the contractors — how the state Department of Economic Development, the Louisiana Workforce Commission, and the Louisiana community and technical college system all work with those entities. Much coordination and communication exists between the public and private institutions, and everybody's moving in one direction. There is not a whole lot of disjointedness in terms of addressing these issues in the state. We're pretty well-aligned and coordinated, and I think you're going to see it make a difference in how we address these shortages going forward.

Moyer: Absolutely, and I think that with the perfect storm of the aging workforce and with the number of future employees needed to handle this \$60

Much coordination and communication exists between the public and private institutions, and everybody's moving in one direction.

billion to \$80 billion worth of growth, it is truly important for the state to have these programs available so that they can attract big companies that are wanting to bring in the business to the area.

Johnson: You're exactly right, because the first question that any company deploying capital in the state of Louisiana will ask is, "Can I get it built?" This question comes up even before it can find a workforce to operate it. The next questions are, Can I get it built on time? Can I get it built safely? Can I get it built within my budget? And that is really a function of having a skilled construction craft professional workforce. And that's why Louisiana's so focused on it. It is a factor, a major factor, in economic development.

Moyer: I am interested in the leadership portion of it. What are some of the things you are doing with that?

Johnson: That's a continuing issue that hasn't received as much attention as the recruiting and training of the construction craft professionals. I will tell you that there's a lot of really good, homegrown, local construction company talent in Louisiana. If you think about

Turner Industries, the former Shaw Group/CB&I, Performance Contractors, EXCEL, ISC, MMR and about companies like that in the industrial sector, these are homegrown Louisiana companies. And because these companies have all been so engaged with the Associated Builders & Contractors training centers over the years, they all put training and development, workforce development, at a very high level. They are all very heavily engaged in it.

They all realize clearly that development of their leadership is critical too. And so that part of it, I think, is just beginning to get some traction in terms of the level of discussion that we're hearing about it. How are we going to address it? Is it enough for the individual companies to say, "Hey we got this; we're doing it internally." Because that, quite frankly, is what some companies will tell you. I'll train my craftspeople in conjunction with other companies who are competitors. But when it comes to my leadership, that's part of my competitive advantage. I train those guys myself. They do a lot of their leadership training internally. It's just something that's beginning to be talked about more.

Can I get it built on time? Can I get it built safely? Can I get it built within my budget? And that is really a function of having a skilled construction craft professional workforce.

Moyer: A number of the companies that FMI encounters tend to have a “trial by fire” or “sink or swim” mentality where they promote somebody and then attempt leadership training. Do you have a best time or a recommendation for companies that are thinking about growth and/or succession and when they should start investing in this?

Johnson: Well, you’re absolutely right. The standard model involves taking our best and most productive pipefitter and making him or her into a foreman. And what happens is that you’ve lost your most productive pipefitter and oftentimes you’ve got a pretty crappy foreman, because we never trained these people in leadership, communication, problem-solving, report writing, planning and scheduling, and other critical factors that make them good foremen or good superintendents.

I was just in a presentation yesterday where Lee Jenkins of Performance Contractors was addressing that subject in terms of the company’s internal training programs. It is working hard to recognize that it has to do that differently; it can’t wait until we say, “Alright he’s our best pipefitter, so let’s make him our foreman. Let’s cross our fingers and hope that he can do the job, and then we’ll give him some training once we’ve already promoted him.” I think there is beginning to be a recognition that we’ve got to identify these people earlier. We’ve got to identify them while they’re still on their tools, and we’ve got to start to train them in some of these leadership skills and let that be part of the evaluation that determines whether they are foreman or forewoman material before we actually make that promotion.

Moyer: So there is beginning to be recognition that there needs to be leadership development. Then it’s a process of identifying people, training those people and then promoting based on what they see after the training occurs.

Johnson: Yes. And in fact, here’s what I think the best practice is. Let’s say you’ve got a group of 25 pipefitters. You can identify six or eight of those guys that have potential leadership. And it’s not just because they’re the most

The standard model involves taking our best and most productive pipefitter and making him or her into a foreman. And what happens is that you’ve lost your most productive pipefitter and oftentimes you’ve got a pretty crappy foreman.

productive person on the tools, right? There's an identification that this group is productive on their tools, but they're also good communicators and they seem to have some innate leadership ability. Let's identify those guys. Let's

Let me tell you, as growth takes place here, that leadership aspect is going to be critically important, and we'd better pay attention to it.

wasted. But we need to start doing it before we promote individuals and not waiting until after we've promoted them and then recognizing they don't communicate very well. It's really too late at that point.

Moyer: Absolutely. And I think that's something that definitely has to be addressed as companies are looking at growth and succession. Because you certainly need new people to come in, but then you have to have people that manage them properly; otherwise, you're more or less throwing money away.

Johnson: That's right. And I think some of the things that you guys do from a leadership standpoint at FMI could be critically important to a lot of these companies. Because, let me tell you, as growth takes place here, that leadership aspect — that foreman, that superintendent, that project manager level — is going to be critically important, and we'd better pay attention to it.

Conclusion

The state of Louisiana has recognized that if it doesn't step in and change the way it is developing students, then it will miss out on companies that can bring jobs to the area. This cycle starts with the first

put them in some sort of training program while they're still on their tools, and then let's take the best two or three from that group. When we have to promote to foreman or to leadership, we've already gotten some skills and gotten some training in them that will help them succeed once they're promoted.

Now for those four or five others who don't get promoted at that point, the leadership training that we've given them still helps them be more productive in their day-to-day work. And eventually they may be able to get there, so that training is never

You certainly need new people to come in, but then you have to have people that manage them properly.

phase of construction. If you can't build it, they won't come. Therefore, creative measures have been taken to get high school graduates job-ready, a perspective that many other states are turning away from as they cut vocational programs.

High school outreach is only one step. Training, retention and recruitment are important steps to ensure that firms get quality employees and keep them here in the state. With a powerful campaign to "build" great workers, it will be hard for owners not to think Louisiana as they build their next projects.

As you look at your bench and wonder where your next employee is coming from, it may be time to call your local government officials to see what they are doing to develop the next generation of craftworkers. **Q**

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STEPHEN BOUGHTON

Selling Your Local Flavor

Turning the available customer base into construction locavores will take time, energy and patience as part of your wider business development efforts.

The Great Recession changed the industry landscape in a multitude of ways. One striking change is the extent to which larger regional or even national players are increasingly squeezing out the midsized contractor. Project types and sizes, which did not interest the big guys in the boom years, are now firmly in their wheelhouses. Project mix and diversification have become a key mantra. The large firms want to broaden their range of project type and size because they need to spread risk, provide a training ground for up-and-coming operations staff, and allow others to cut their “get-work” teeth on some smaller opportunities.

Construction is and will always be a local business. The big question is, How much will the Big Brands push out the local players? The reality is larger companies have deeper pockets, access to greater resources and are often perceived by customers to have stronger competencies. They are often seen as lower-risk options. As the old saying goes, “Nobody ever got fired for buying IBM equipment.”

Taking a Page From the Locavores

How can the smaller players fight back? The trick is to avoid fighting the bigger organizations on their strengths. Trying to match them will most likely further highlight these deficiencies. One alternative approach is to learn from the locavore food movement.

What is a locavore? In the realm of food and produce, a locavore is someone who pays attention to where his or her food comes from and is committed to eating as locally as possible. For some, it is an environmental aim (i.e., to reduce the carbon footprint associated with the processing and transportation of food), and for others, it is a reaction to the big-box stores that dominate the supply chain and drive down prices (with great social cost, in the locavores' mind). By observing the locavore movement, we can adapt some of the declared benefits to the construction industry.

The trick is to help your buyers understand and acknowledge these benefits. Here are a few details on how they apply to the construction and engineering industry:

By eating locally, most locavores, in an effort to resist industrialized and processed food, hope to create a greater connection between themselves and their food sources. In the construction and engineering industry, you need to build a customer contact plan, which increases the level of connection. A truly embedded customer knows you, your business and your people. Customer intimacy results in a better project cycle and outcome. This increased connection and understanding require regular, meaningful contact with the customer. This means calling on customers periodically, not only when your backlog is low.

If you do not give the customer a reason to believe you are different, why would they think it is important? To be different you need to appeal to them in some meaningful way.

The majority of locavores buy as much food as they can from farmers, growers and sellers with whom they have a relationship or whose growing or producing practices appeal to them. For construction firms, applying this principle means asking: Do your customers truly understand what makes your organization tick? You have to help them understand your people, your processes and how they are focused on a better project outcome. If you do not give the customer a reason to believe you are different, why would they think it is important? To be different you need to appeal to them in some meaningful way. One meaningful way is to be highly knowledgeable about your customers'

businesses. Do you understand what makes their organization tick? Do you understand their people, their processes and what their focus is on project outcomes? When you can talk their language and put yourself into their shoes, you are significantly different from the commodity construction resources.

Many locavores give themselves several exceptions to their local diets. Commonly excluded items include coffee, chocolate, salt and/or spices. In construction, there will be times when you simply cannot fulfill a customer's needs. This might relate to a particular expertise, technology, process or capability. First, make sure this truly is a gap or something you could satisfy through a partnership, purchase or use of an outside resource. If you conclude it is a real deficit, then be honest at the earliest stage. However, do not let this one item sink the opportunity.

Eating local means more for the local economy. A dollar spent locally generates a multiple income for the local economy. When businesses are not locally owned, money leaves the community at every transaction. The same rule applies in construction. While the field force may be local in both scenarios, there are still implications for how (and where) project profits are ultimately used.

Locally grown produce is fresher. Produce that is purchased in the supermarket or a big-box store has been in transit or cold-stored for days or weeks.

When businesses are not locally owned, money leaves the community at every transaction.
The same rule applies in construction.

Produce that you purchase at your local farmers market has often been picked within 24 hours of your purchase. There is a corresponding improvement in taste and nutritional quality. In the construction and engineering fields, look at how project decisions are made. How flexible can the local team be when faced with customer demands? How is the responsiveness and quality (i.e., taste and nutrition) affected if the construction source is local?

Crops and varieties that would likely not make it to a large supermarket. They are less concerned about shelf life or high-yield demand. For construction firms, this translates into flexibility and a willingness to try new things on a one-off basis. What are the reduced constraints on a locally controlled business compared with a larger, more centralized approach?

Buying locally grown food is fodder for a wonderful story. Whether it's the farmer who brings local apples to market or the baker who makes local bread,

knowing part of the story about your food is such a powerful part of enjoying a meal. For construction firms, the previous comments feed this bottom-line conclusion. What is the upside for your customer who can tell this story locally?

Pioneer Your Own Buy-Local Movement

The buy-local movement has always been a mantra for the smaller players in our industry. However, the application of this principle has been varied in its execution. Being local does not mean customers are obligated to buy from you. There is no moral code that says they must do so. Turning the available customer base into construction locavores will take time, energy and patience as part of your wider business development efforts. Do not underestimate your impact. While Walmart will never appeal to the locavore movement, even this large retailer is shifting its approach to selling fresh produce in response to changing customer demand.

There will always be customers for whom IBM equipment will be the default choice. The trick is to find an audience that can be persuaded to consider the alternatives. Be proactive and early in your approach; once a project is public knowledge, it's too late to start the locavore conversation. The food locavore builds relationships with local farmers early and for the long term; the trusted relationship comes from continued effort and experience on the part of both parties.

Planting the FUD factor (fear, uncertainty and doubt) in the minds of buyers is a tried and tested sales technique in all industries, often targeted at smaller (riskier, so they would like you to believe) providers. As your landscape changes around you, ask yourself how you are evolving your approach to meet this challenge head on in the coming years. **Q**

Turning the available customer base into construction locavores will take time, energy and patience.

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JEREMY BROWN

Geographic Expansion as a Market Strategy

Provide your key employees transparency around your strategic and financial intentions to avoid costly distractions.

Are you over the “defensive mode” of 2008–2012? You are not alone. In fact, improved optimism in the building markets, plus several macroforces that point to smoother sailing in the years ahead (“cautious optimism” still relevant), have pushed many contractors out of the defensive mode and into offensive or strategic mode.

Those that fit the latter description are seeking ventures to capitalize on growth prospects, and many of them are seeking opportunities to allow the next generation of leaders to have their chance to build the businesses. After all, even though we often talk about all of that midcareer talent that exited the workforce during the Great Recession, there is more talent waiting patiently in the wings.

For contractors, growth can come in several ways. Some companies decide to expand into new market segments and serve new customers; some decide to offer existing customers new services; and some — more so now than in recent years — are attempting to enter new geographic markets. In late 2013 FMI conducted a review of approximately 200 strategic plans of clients during the prior five years. It turned out that in the midst of the recession (2008–2009) about half of our reviewed clients had plans to expand geographically in some form or fashion. In 2013 that number jumped to about 90%. We were intrigued to dig a little deeper into this trend and capture some “best practices” in market penetration — many of these lessons learned prior to and during the recession.

Geographic expansion is undoubtedly one of the most costly and often least successful strategic options that a contractor can employ. However, since almost every contractor of decent size attempts geographic expansion sometime in its life, we would be remiss as an advisor to the construction industry not to talk about it and update the construction community on best practices and lessons learned on this subject.

We also want to point out, in the hyperconnected environment that we live in, geographic expansion does not just mean opening an office in City X. In fact, it can come in plenty of different ways other than permanent expansion, such as traveling with a customer for a one-off project or series of projects; sending business development

professionals to seek out new opportunities in a market; or simply joint-venturing in a new market to deliver a project right in your wheelhouse. The point is, geographical expansion in many cases does not require a permanent presence. Plenty of successful contractors realize this and maintain most project and corporate services back at headquarters.

Geographical expansion in many cases does not require a permanent presence.

The Cash Siphon

By definition, a cash siphon is the drainpipe injected into your balance sheet, discharging all available cash and working capital so desperately needed to run your business. An imprudent venture into a new market is one example of a cash siphon. Used in a sentence, “I can’t believe we ever tried opening that office in (enter warm-weather, snowbird city such as Phoenix or Orlando) — with low-bid work, too much competition and a poorly led group of staff; we wasted tons of money — man, that was a cash siphon.”

As unsuccessful as many geographic expansion ventures are, FMI has worked with many contractors that have been successful with geographic expansion. A few tried-and-true lessons when avoiding the “cash siphon” include:

Look before you leap

Research is challenging, expensive and time-consuming, but guess what? The other option — expansion into new markets with only one eye open — is even more challenging, expensive and time-consuming. A little over a year ago, one of FMI’s electrical contractor clients was expanding into a new market and sending some of its best people to that market. They were confident that they had a handful of existing customers that they could service based on existing

relationships, although they realized that over time they would need to pick up additional clients. During a conversation at the time, FMI asked the vice president charged with the effort how business development efforts were progressing in the new city. The VP replied, “We should get the keys to the new office next week and then we can start calling on clients.” This was a red flag, of course. Fast-forward to one year later, and we probably do not need to tell you how the rest goes. Needless to say, that office is a cash siphon with an unknown time horizon in place on when it will begin breaking even. And it’s not because there was no work for the electrical contractor; but the client simply did not understand the buying habits of customers, competitive forces, workforce dynamics and major economic trends that were driving work in the new city.

Mind the gap

The dual strain of managing a workload in your existing geography, coupled with starting up business development and operations in a new geography, is one of the hardest transitions any company can make. To keep employees engaged during this transition, you will need to overcommunicate and establish strategies that keep the team united. Celebrate successes, even when small, and recognize and reward field and back-office employees who are working double shifts to keep the wheels on. You should also avoid “cutting special deals” (compensation, living arrangements, per diem, etc.) with employees who need to travel temporarily or indefinitely to new regions or project sites. Every new lucrative “deal” that you cut will become the standard for all employees (face it, they talk to each other), and you will continue to increase your fixed costs to a point of unsustainability. Instead of deal-cutting, use a standard “mobility policy” that states upfront what adjustments to compensation and fringe benefits will look like, and make exceptions on as few occasions as possible. When you are forced into making an exception for an employee, he or she will be less likely to talk about it since any “hearsay” of the exception can easily be traced back to him or her. Also, the mobility policy will allow you to revert to standard pay if and when that employee returns to the home market.

Make your intentions clear

Ambiguity of strategy and direction is one of the biggest drains on any organization. Without making your intentions clear to the organization (i.e., a short-term geographic transition to travel to a customer’s location or a permanent move to a new market), your employees will make up their own versions of the story. That perception will become reality. This may seem trivial, and you may be saying, “I’ll only tell them what they need to know, and they should focus on their jobs.” But the fact of the matter is that your employees will need to pick up the brunt of the extra work it takes to maintain existing operations and start up new operations elsewhere. They need to know that all of that extra work and

effort is supporting a long-term strategy and vision with reasoning behind it. Without this information, they will quickly become disenfranchised to the point of disturbing your home business.

Have an exit strategy

Let's face it, even with proper due diligence and a sound strategy in place, geographic expansion is risky and can result in failure. Many of the reasons contractors fail when tackling new markets are outside of anyone's control and due simply to market dynamics of supply and demand. Regardless, you are still going to send some of your best people to that new market, and you need to retain them whether or not the market entry is successful. Our hubris often prevents us from asking, "What are we going to do if this strategy fails?" So instead, ask yourself, "What defines success — in terms of expected profitability, return on investment and time frame — and what will we do if we do not achieve success?"

As you may have already noticed, one of the themes of this article is transparency. By providing your key employees transparency around your strategic and financial intentions, as well as a comfort level that they still have a job if the market entry does not work out, you can avoid costly distractions. Your employees will be able to focus on their jobs, feel comfortable that they can be open about risks and issues, and not stay awake at night worrying about what happens if this market does not work out.

If you are reading this article, there is a good chance that you are thinking of growing your company, possibly via geographic expansion. As you likely suspected, and as we have reinforced in the preceding discussion, this is one of the most difficult and investment-intensive opportunities that a construction firm can embark upon. If, after reading this article, you are still considering this move, please take the four key pieces of advice to avoid the cash siphon, and, of course, be sure to engage outside counsel from others that have experience in this area. **Q**

Even with proper due diligence and a sound strategy in place, geographic expansion is risky and can result in failure.

PAIGE FERGUSON
AND MICHAEL MANGUM

Future Shock: Maintaining the Balancing Act

Leadership is a balancing act that's not dominated by black-and-white answers, but by the right combination of "gray" to succeed.

In a previous issue of *The FMI Quarterly*, we discussed several premises that leaders should be aware of when striving for success in our tumultuous industry. Those premises were leading indicators versus lagging indicators, adaptability versus efficiency, learning versus knowledge and systems versus goals. In this continuation of the article "Future Shock: When Good Is No Longer Good Enough," we will expand on the dichotomies that leaders face and show how to overcome them.

If you are familiar with the leadership guru Jim Collins, you may remember his theory of the "tyranny of the or" in "Built to Last: Successful Habits of Visionary Companies." In this book, he and co-author Jerry Porras discussed leaders' tendencies to look at two options and automatically assume that you must choose one or the other. The insightful commentary discussed the benefit of considering how both options could work. For example, many people find themselves asking whether it is better to have a successful career or a good family life. Instead, they need to consider how to do both.

At times, the need to base decisions on these two-pronged, either/or options limits our ability to truly make the best choice to move forward. Below we focus on the comparison and contrast of stillness versus stimulation and innovation

versus repurposing — ideas that address the business balance achievable through combining options. Throughout this article, the reference to balance is not meant as a 50/50 split, but that the split is a manageable one — whether 80/20 or any other — which will offer the best results. The sets of opposing forces that we explore are manifest in numerous ways within our industry, and we encourage you, as a leader and in your business, to revisit your approach to each.

Stillness vs. Stimulation

We are barraged with messages virtually 24/7. The average person checks multiple personal mobile devices (phones or tablets) around 150 times each day! Our ability to think and act strategically is under siege like never before. The constant stimulation and feeling of being “busy” has created a whirlwind of adrenaline, which can lead to an unnerving sense of unease if we aren’t constantly doing and going. The instant gratification of sending off an email, taking the immediate call or completing a to-do list trumps the delayed gratification of thinking about a challenge for an hour. We default to the realm of urgency more than any other.

Yet, it is the silent, still times that allow for greater depth of creative and innovative thoughts for our businesses. True leaders recognize that the things most worth doing take time. In a world where we are constantly pulled from one task to another, leaders must forcibly carve out quiet time to contemplate their decisions.

For the construction industry, the work that we do succeeds or fails by the clock. On virtually every hard-bid tender, a contractor’s failure to submit its proposal by the appointed time — even if by mere seconds — results in a disqualification. Similarly, public agencies often specify the hours a contractor can access the work zone with substantial penalties enforced for violations (i.e., lane rental provisions in highway improvement projects, etc.) Therefore, the urgent matters are constantly falling within the stimulation category. A piece of us enjoys this constant go, go, go mentality. It makes us feel important and needed.

The truth is that without a break, a mental pause, time for reflection and a step back from the urgent, we will not get to the breakthrough and strategies that will propel our companies to perpetual success. Organizational leaders

In a world where we are constantly pulled from one task to another, leaders must forcibly carve out quiet time to contemplate their decisions.

from Silicon Valley companies like Apple, Google or Intel incorporate the discipline of allowing time to think into their schedules.

This applies to more than just tech giants and innovative companies. Creating quiet time or a time for meditation (not the “ommm” kind, but the kind that clears your mind of the constant clutter of thoughts) gives a sense of stillness. In turn, it is with a clear mind that we can focus on:

- Envisioning the bigger picture for the business. (Where are the markets taking us? How are we staying ahead of these changes?)
- Addressing challenging situations that we are facing. (Who am I grooming to continue our organization’s success?)
- Reflecting on our own leadership. (Where are my blind spots? Whom do I have that is strong in my areas of weakness?)

Stillness also allows for self-awareness. In a recent study by the Korn/Ferry Institute, stock prices for companies that had a higher percentage of self-aware employees outperformed those with fewer self-aware employees over a 30-month period.

The amount of time devoted to stepping away mentally from the day to day needn’t consume hours of your time. It may be just focusing on clearing out all of the thoughts racing around between your ears for a single minute. Flushing out this continuous stream of consciousness for five minutes will probably be a challenge at first. After you have had an opportunity to clear your thoughts, focus on one challenge or area of growth. Create three actions that you will take because of this time. The benefits of giving yourself time to reflect will not only open up greater opportunities for your business, but also help you grow personally.

This is counterintuitive to how most leaders operate. When faced with overwhelming challenges, most leaders speed up their work pace. The assumption is that you have to move faster to get more done. It reflects the prevailing culture of the construction industry: high task focus, prioritization of effort and action to drive achievement, expectation of extended work hours in deadline situations, etc. In reality though, the best leaders recognize that sometimes you have to slow down to speed up.

Creating Time for Stillness:

- Make an appointment with yourself for 15 minutes.
- Sit in silence for the initial five minutes, clearing your head of your daily cares and calming the heart and mind.
- Next, focus on one challenge or area of growth for the next five minutes, jotting down your ideas as they come to mind.
- In your last five minutes, identify three action items from your reflections.
- Repeat on a daily or weekly basis.

Innovation is your best option when:

- It aligns with your organizational values.
- It creates a key differentiator for your business.

Innovation vs. Repurposing Ideas

The idea of innovation is enticing and encourages us to act differently — perhaps by adding flair through technology all while simultaneously disrupting (in a good way!) our industry. Webster defines innovation as “a new idea, device or method; the act or process of introducing a new idea, device or method.” For such a simple definition, the concept of innovation is much more complex. To be innovative requires time, energy and resources. Being innovative requires an investment of resources with little immediate return, but with a high return expected over the long term. How do you know when it is in your organization’s best interest to invest resources to be innovative or to continue to repurpose past ideas or methodologies?

Innovation trumps repurposing when the area is a core differentiator and when it fits into the business’s overall strategy. Repurposing is the better option when efficient and effective operating systems already exist.

An example would be investing in new software. If this software is key to a new project-design element, or if it provides an opportunity to enter an adjacent market, innovation would be an option. Innovation does not always have to be transformative. If your business plan mimics one of a successful company in your industry, it may be illogical to try to reinvent what already works. One can argue that given the widespread use of BIM in the construction industry, it would be a rare general contractor that could wisely justify developing a new modeling tool from scratch. A far simpler (and safer) approach would be to merely survey industry peers’ experience with commercially offered software packages.

The important item to assess when considering innovation is whether it’s core to your business, if there are substitutions that would work as well or better than investing time to innovate, and if it will be a differentiator to the business.

Twenty years ago the notion of wireless communication applications in the construction industry was limited to two-way radios and simplistic mobile phones. A few pioneers thought it possible to use satellite links to capture heavy equipment telematic data (i.e., GPS, engine run hours, pressure levels, etc.) on remote construction projects. In that season, many contractors developed and applied this innovative

**To be innovative
requires time, energy
and resources.**

technology to lower operating costs by radically improving equipment uptime and associated productivity. Today, virtually every OEM and many rental houses have a proprietary system rendering innovation (for contractors) ill-advised and inefficient.

Although there is no formula for innovation, many great resources are available to determine areas to innovate and how those align with your strategy. One source that provides distinct areas for innovation in a business is “Ten Types of Innovation: The Discipline of Building Breakthroughs” by Larry Keeley and Helen Walters. Another treatment is found in “The Innovator’s Dilemma” by Clayton Christensen.

The Great Balancing Act

Leadership is a balancing act that’s not dominated by black-and-white answers to questions, but by finding the right combination of “gray” to succeed. In our industry, it is not budget or quality, design or construction, nor leading or managing. What truly matters is the fusion of these complimentary elements.

Leadership is a balancing act that’s not dominated by black-and-white answers to questions, but by finding the right combination of “gray” to succeed.

Physically, our cerebellum is the part of the brain that controls our balance; we know when it is off because we stumble, experience headaches or even fall down. In business, we should have checks in place that also signal when this balance is misaligned. A lack of organizational strategy could indicate a dominating amount of time spent in stimulation mode. A stale bottom line might necessitate reassessing if you need to innovate or repurpose parts of the business. Whatever the

indicator, business also has a balance. We hope that leading indicators from “Future Shock: When Good Is No Longer Good Enough” can assist in detecting your company’s areas that need attention. The next step is to create the stillness necessary to identify and address those needs and adapt accordingly. **Q**

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KEVIN HAYNES

Alberta's Market Powered by Oil and Gas

Continued development of Alberta's natural resources will not only expand the local economy, but will also result in further demand for construction services.

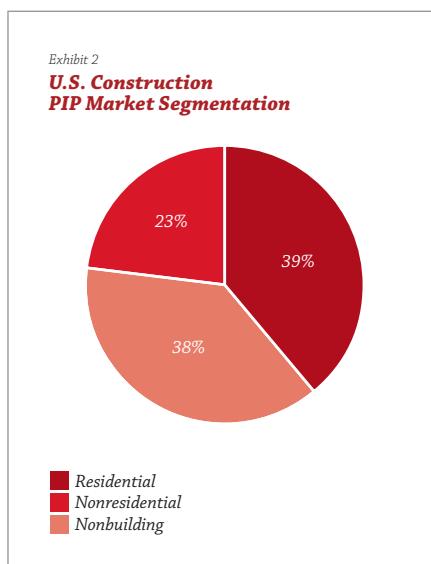
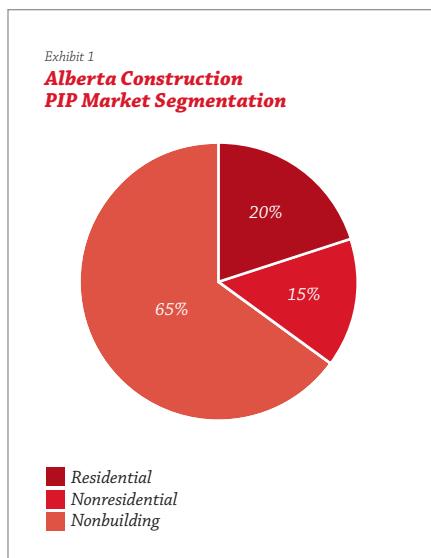
Generating more than \$87 billion annually in construction put in place, Alberta is projected to be the largest provincial market for construction services in Canada, and it could grow even larger, depending on the development of several planned oil and gas pipeline projects in western Canada.

Oil and gas construction is expected to reach nearly \$52 billion by 2017 and will be a significant driver of total construction spending throughout Alberta, as oil and gas construction represents roughly 55% of the province's total construction market. Therefore, changes in natural resources (e.g., oil sands) investments have a strong influence on the entire market.

In 2013 some of the region's oil sands producers either delayed proposed projects or dialed back planned investments in response to lower market prices. Oil prices were depressed due to problematic pipeline capacity. Increasing supply from U.S. oil and gas shale congested pipelines and placed further downward pressure on Canadian oil prices. See Exhibits 1 and 2.

Additional Capacity Needed

Right now, the approval of additional pipeline capacity is critical for the subsequent growth of Alberta's construction industry. The approval and continued development of the Keystone XL, TransMountain and Northern



Gateway pipeline projects alone could potentially unlock \$1.2 trillion in additional economic activity through 2035 in Alberta and billions in royalties and revenue. This investment will increase provincial royalties and revenues as the product is exported to more competitive international markets (e.g., Asia).

Increased revenues and royalties will free up funding for capital investments (e.g., institutional), and oil-related development will create new jobs that will attract population growth and heighten demand for office space and investment in supporting infrastructure (e.g., power, highways and streets). Finally, new jobs will also increase consumer spending, spurring demand for the construction of commercial facilities.

A Myriad of Driving Factors

While oil sands investment is a primary driver of construction spending in Alberta, it is not the only factor. Flood reconstruction, record-high in-migration and a commercial building boom will also help to sustain construction activity in the province.

The provincial government has pledged an additional \$1 billion for flood reconstruction in response to the June 2013 floods. Demand for institutional construction will also be driven by the education segment, including new and modernization projects.

Alberta has introduced a public-private partnership vehicle to spur investment in its primary schools. The Alberta Schools Alternative Procurement (ASAP) initiative invites private companies to bid for the financing, design, construction and 30-year maintenance of public schools. Demand for new schools is driven by the growth of the school-aged population. Projected spending for health care construction, including hospitals and clinics, is also expected to increase. In 2015 health care spending in Alberta will be roughly \$1 billion. In total, investment for the institutional construction market will be nearly

\$3 billion annually and should remain stable with the government's decision that it will borrow money to maintain its capital-spending program.

Spurring New Growth

Between 2008 and 2010, the credit crisis and recession had a significant impact on the previously booming commercial market in Alberta. Since that time, commercial activity in the province has picked up. Private developers and large retailers (e.g., Target) are very active in Alberta and are striving to keep up with the province's strong population growth, which continues to outpace the rest of Canada. For example, population growth in Alberta in 2012 was 2.5%, compared to 1.1% in Canada, making it the highest increase in the country.

In 2012 Alberta's commercial building segment accounted for almost a quarter of all commercial spending in Canada. Over the next two years, Target expects to open 100 to 150 stores in Canada and plans to invest \$200 million for construction in Alberta. Driven by shifting cultural preferences, development is concentrated in high-density urban areas, such as the East Village development in Calgary, which features residential, retail, office and cultural buildings. Growth is also projected in the commercial subsegments of warehousing, hotels and restaurants.

Tackling the Key Issues

In addition to a resolution to proposed pipeline projects, labor shortages are a key issue for the Canadian construction industry and must be addressed to meet projected demand. Strong population growth in Alberta continues to push the province's infrastructure to the limits. For example, increased construction activity related to electricity generation and transmission is leading to increased need for qualified engineers. Expansion demand is expected to create an additional 16,000 jobs for engineers by 2020. Virtually all of these jobs will be west of Quebec, with the bulk of the positions open in Alberta and British Columbia.

When it comes to engineering program enrollments, Alberta has lagged behind national trends. While skilled training has remained very important, the domestic population growth will not provide an adequate supply of labor

While skilled training has remained very important, the domestic population growth will not provide an adequate supply of labor to fulfill industry needs.

to fulfill industry needs. As a result, companies are focused on recruitment efforts internationally in areas such as Ireland and the U.S. (e.g., California). In addition to infrastructure-related construction, residential construction is expected to peak in 2018 and will result in employment growth of nearly

35%. Nonresidential construction employment is expected to increase by 20% during the same time span. This will continue to put a strain on the supply of skilled labor.

Continued development of Alberta's natural resources will expand not only the local economy, but will also result in further demand for construction services.

It is true that oil sands investment has been below the record pace of recent years, but the sector continues to be Alberta's economic engine with GDP growth forecast at more than 3% in 2014 (compared to 2% in 2013). Oil-related investment increases provincial royalties and revenue and generates new jobs that support the growing demand for construction (e.g., retail, office, residential) services. In anticipation of the

approval of the aforementioned pipeline projects, owners are moving forward with capital projects. Therefore, continued development of Alberta's natural resources will not only expand the local economy, but will also result in further demand for construction services that could be even higher, depending on the outcome of the planned pipeline projects in the region. **Q**

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EMILY NOWACKI
AND TIM TOKARCZYK

Retaining Top Talent

Organizations creating a sense of ownership and delegating challenging tasks for developmental reasons will benefit from investing in their people.

In the A/E/C industry, we frequently talk about the “war for talent.” Often this war is described as the increasingly salient need for capable and skilled workers to fill key leadership and technical positions. In the wake of the Great Recession (which resulted in a significant volume of skilled labor leaving the construction industry altogether), and in the midst of the retiring baby boomer crisis (which will result in many vacant critical leadership positions), companies in the construction industry will continue to struggle to find great talent and fill key positions.

But the war for talent goes far beyond your company’s ability to attract, recruit and select great talent. One of the most important tactics to win the talent war is investing in *retaining the great talent you already have*.

Interestingly, the road to winning the war for talent is somewhat cyclical. By investing in the people who are already on your payroll, you are likely to foster their commitments to stay in your organization as well as to engage them in attracting and recruiting great talent externally. Talented employees who are happy with the organization and who feel they are valued are excellent recruiting resources of other great talent.

Organizations need to understand that the opinions of their employees carry weight with potential future candidates. Through sites like glassdoor.com, it's become easy for people to share their work experiences with others. Focusing on fostering the growth and commitment of your existing talent is an overlooked avenue for improving organizational recruiting and selection. With so many retention tactics to choose from, leaders can quickly become overwhelmed. What's a good starting point to encourage your talented

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workforce to stay? Many industry organizations have found there are two key behaviors that leaders can do to encourage their best talent to stay: (1) create ownership and (2) delegate challenging tasks.

Rent or Own?

Drawing on research on what motivates and fulfills us in our working lives, it's clear that people feel more committed to stay in roles where they experience a sense of autonomy and ownership over the work they perform.¹ In fact, compared to traditional command and control environments, companies

that foster ownership have one-third of the turnover rates.² To help understand the power of ownership, consider how people typically treat rental cars versus their own cars. If you're like most people, you treat a rental car far worse than you would treat your own car (i.e., you probably won't take a rental car to the car wash or worry about oil changes). Like jobs where we have little control, we don't feel compelled to go above and beyond caring for the rental car because we don't own it. We just need to make sure we return it in good enough shape not to incur additional fees. Do people in your organization treat their tasks and projects like their own car or like a rental?

In an increasingly lean working environment characterized by high workload demands, creating ownership in your talent is also like giving your best employees a safety net and preventing them from burning out. In fact, research suggests that when we experience a strong sense of ownership, we are more resilient in the face of stress and overload.³ This is because people feel more in control of their destinies — they have something that's theirs, and they feel an increased responsibility to see it through to completion. Without a sense of ownership, people just follow orders and are more likely to burn out. What can leaders do to create ownership? A major part of autonomy is having the will

to make choices. Where appropriate, encourage a culture where your best talent has some decision-making authority over how or what it accomplishes at work. In a regional or national A/E/C firm, project locations tend to foster such autonomy naturally. Multilocation, decentralized firms have similar ease. With smaller firms working on projects in near proximity, greater effort will be required to create the degree of healthy autonomy needed by top performers. What choices (even small ones) could you give your employees?

Optimizing the Ownership Mentality

To increase ownership, leaders also need to clarify the expectations for the end goal. However, dictating every step on the way to that goal will kill all sense of autonomy — to foster ownership, give your people an opportunity to chart their own path. Ask yourself: Are you managing and clarifying the outcomes and letting people find their own methods for completing the tasks? Many leaders feel a sense of unease that comes with letting go of work and trusting their talent to make important decisions and see projects through to completion. When employees take on new tasks, there may be some initial setbacks or failures. Leaders must build milestones or checkpoints into any project — that way, they are available if help is needed, but they aren't micromanaging every aspect of the task. Micromanagement can suffocate any benefits of minority ownership.

The second key behavior is delegating challenging tasks. By delegating challenging tasks (especially those that are meaningful to the person you are delegating them to), you are harnessing another critical driver of motivation and a force that keeps talent committed. No matter the line of work, people generally want to feel a sense of mastery and growth; when we are given tasks that challenge us (and mean something to us), we feel more attached to the work, our team and our organization. The critical component here is to delegate challenging tasks that will *benefit* the individual. All too often, leaders “dump” unwanted or mundane tasks on their people and feel surprised when they don’t thank them for the opportunity. True delegation is about the person receiving the task — what skills does he or she need to learn or challenges

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Most leaders in the industry are operating at one or two levels below the strategic level at which they should be.

think about the business and your work more strategically. Most leaders in the industry are operating at one or two levels below the strategic level at which they should be. For a moment, think about all the tasks you are currently responsible for *right now*. Are all those tasks appropriate for someone at your level of leadership? If you're like most people, you are currently doing work that your direct reports could (and should) be doing. That is a great place to start when considering what to delegate.

Offloading Key Tasks

Giving employees ownership and delegating challenging work can be a bit frightening for leaders who have traditionally held on tightly to their own projects, especially the difficult ones. When an employee takes on a new task or responsibility, he or she may make mistakes the first time out. The problem is that when some leaders detect these mistakes, they swoop in and take over. This "helicopter rescue" approach is counterproductive because it teaches direct reports nothing. It takes great leadership to have the patience to help teach, coach and mentor people through obstacles so they can master the delegated tasks. Though this approach may require more time and patience from you as a leader, it will pay dividends once the employee learns how to successfully accomplish the task.

In this post-Great-Recession landscape, organizations are looking

does he or she need to overcome for his or her own personal development?

Delegating challenging tasks for the sake of fostering employee development and growth is a great tool for retaining talent and encouraging overall company health. When done appropriately, delegating challenging and meaningful tasks not only encourages the mastery and growth of your employees, but also enables your own growth and mastery, enhancing your skills to

think about the business and your work more strategically. Most leaders in the industry are operating at one or two levels below the strategic level at which they should be. For a moment, think about all the tasks you are currently responsible for *right now*. Are all those tasks appropriate for someone at your level of leadership? If you're like most people, you are currently doing work that your direct reports could (and should) be doing. That is a great place to start when considering what to delegate.

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for ways to gain a competitive advantage over their competitors. In the coming years, as the war for talent heats up, organizations that create a sense of ownership at every level of the company and delegate challenging tasks for developmental reasons will benefit from their investments in their own people. It's significantly cheaper to retain the employees you already have, rather than having to seek out, interview, hire and train new employees. If your people aren't taking ownership over their tasks or aren't getting stretch assignments for developmental purposes, then, when applied, those are two critical leadership skills that will start paying off immediately. **Q**

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¹ Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25, 54-67.

² Pink, D. H. (2010). *Drive: The surprising truth about what motivates us*.

³ Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative science quarterly*, 285-308.

ANGEL DANILO CUEVAS

Learning Beyond the Classroom

As the construction industry becomes more efficient and our workplaces more competitive the onus is on the individual to stand out.

People move business. This is a short yet powerful statement that is fundamental to much of what we do in our workplaces. It's truly amazing how often we forget that behind the estimates, behind the project schedules and behind the drawings, it always comes back to people.

As a graduate construction management student at Columbia University in New York, I'm getting an excellent education, yet I'm still learning beyond the classroom. I have a deep understanding that everything in life involves sales and communication. People are key to everything we do. In our schools and in our workplaces, we constantly have to prove a point, explain a solution or convince someone that we have an answer to the present problem. So while I understand that it's great to earn a degree from an amazing Ivy League institution, it's literally worthless if I can't communicate my value and address a client's need.

In school we're often presented with many different formulas, projects and problem sets. Colleges are excellent at providing solid foundations in the technical aspects of construction. The development of an estimate, the construction of a CPM schedule and even innovative uses of new technologies like BIM are all covered in a curriculum. However, colleges could do a better job of helping the student think like a problem solver who can effectively communicate a solution. The construction industry is full of problems that need solutions; this represents opportunity for our future generation of project managers, supervisors and owners.

Presenting Solutions

In December I attended a “Construction Selling Skills” course with FMI in San Francisco. The program truly helped improve my ability to communicate efficiently. More importantly, it helped strengthen the notion that people move business. All business transactions — whether it’s hiring an employee or being awarded a project — require that a need be met. As employees, we receive a salary when we meet a particular need within the company. As general contractors, we are compensated when we solve a problem for the customer. Sales and communication require similar paths. In sales you are compensated when you solve a need. In communication you are rewarded with understanding when what is communicated satisfies the listener’s need. The traditional sales approach of pitching an idea absent a need is ineffective at best. Instead, presenting a solution to solve the client’s need is welcomed. If the problem or need does not exist, then there is no pitch in the world that will close a potential client.

Secondly, the FMI program helped clarify a common misconception that the chattiest individuals are the best candidates for a seller-doer position. In reality, clients want to speak with individuals who have the most technical depth about the subject matter. They want to feel comfortable that the person

representing the company actually knows how to build. As a result, employers need to understand the importance of preparing their technical experts in communication. While estimators or project superintendents may not be inclined to generate new business, we need to educate them on the importance of seller-doers and provide them with the necessary training. Generally, it is easier to equip technically trained people with communication skills than to equip good communicators with technical competence. The hazards, of course, include the possibilities

Generally, it is easier to equip technically trained people with communication skills than to equip good communicators with technical competence.

Students are a mixed bag when it comes to their appreciation of seller-doers.

conversations with undergraduate students, I learned that many do not readily understand the business aspect of their technical careers. Often we see that someone wants to become an engineer because he or she wants to build projects, yet very little thought goes to the business aspect of engineering: how work is obtained, how projects are awarded and the importance of the working relationship with the client during the build-out. When speaking with part-time graduate students who have full-time jobs, there was greater appreciation for the business issues. This group seems to grasp the idea that beyond their technical skills, other skills are necessary in the workplace. Consequently, these graduate students are more apt to participate in networking events and activities that may help generate new business for their companies. I've often wondered if this is due to the players within the classroom. Professors often have full-time jobs and teach classes

to part-time graduate students. This combination of workplace experience and academic instruction helps create a vibrant environment where both the professor and the student bring the classroom to life. It is no longer an abstract concept that was written in a textbook, but an actual problem that requires real-world application. After a recent conversation with a senior project manager, he mentioned that he loves to hire students who attend part-time graduate programs. He believes that students that come out of full-time programs typically obtain a lot of their information from textbooks that were written five to 10 years ago. On the other hand,

that the easy talkers may be unlikely to do the homework necessary to have the technical savvy needed, and the technically savvy may have behavioral blocks to becoming empathetic communicators.

What are students thinking?

Students are a mixed bag when it comes to their appreciation of seller-doers. For example, after recent

Students that attend part-time programs with adjunct professors are typically very familiar with the latest construction technologies and have a very strong sense of the day-to-day operations of a construction company.

students that attend part-time programs with adjunct professors are typically very familiar with the latest construction technologies and have a very strong sense of the day-to-day operations of a construction company. The content that is brought into the classroom by both the student and the professor is the catalyst that helps shape the problem-solving mindset of seller-doers.

Nevertheless, how do you get these students to realize the value in communication and the fact that they are already participating in the sales process? Consider the presentations that students make in schools.

Often, they have to explain their point of view and demonstrate why their solution may be superior to the other solutions being presented. Presentations that concentrate on need fulfillment are often winners. This sounds a lot like the kind of communication a successful contractor has with an owner or that a subcontractor has with a prime contractor. However, many students dismiss the value of this opportunity to practice their sales approach in the classroom. In some cases, presentations provoke a paralyzing fear in the student. As a result, when hiring, employers should look for students who may have enjoyed this process. While they have a deep technical understanding of their skill set, they also have an appreciation for the communication process, and thus make excellent candidates for a seller-doer position.

We live in a problem-solving world, thus it is very important to make sure that your new hire understands they are being paid to solve a problem.

Awaken the Seller Within: Three key elements to help awaken the seller that lies within your new hire

Educate: When hiring your potential candidate, take into account the dynamics of his or her education. Is the new hire textbook-savvy? Or has the new hire been exposed to real-world construction problems in the classroom? We live in a problem-solving world, thus it is very important to make sure that your new hire understands he or she is being paid to solve a problem. Use this to directly create the linkage between sales and technical careers. New hires need to understand that throughout most of their academic careers they've been making presentations, meeting new friends and solving problems, all of which come into play in the business world. The new hire also needs to understand that all of the technical skills in the world are useless if he or she cannot communicate the value of these skills to others. It has truly always

been about problem-solving and it will always be about problem-solving!

Mentor: Employers must take active roles in training new employees and fostering the skill set early on. Setting up mentor-protégé relationships within the company will help build a sense of teamwork within the organization and, most importantly, help nurture future company executives' and managers' skills. By developing teams of seller-doers from within the company, the teams will be populated by people who genuinely understand the company and comprehend the technical aspects of the work being performed. Clients do not want to speak with "talking heads"; instead, they'd much prefer to speak with someone who will be performing the actual work. It's up to the company executives to prepare staff members to handle these business opportunities.

Support: Preparing seller-doers is a matter of corporate culture, and it needs to be incorporated on all levels. I'm restating this again because it is vital to the success of the recently employed student. Training programs, webinars

and reading materials centered on construction selling skills are all important support mechanisms that can help the newly employed student gain his or her footing as a seller-doer. Your business depends on fresh leads and generating new business; thus it's crucial to shape the mindsets of these recent graduates so that they understand that selling is a natural extension of any job.

The seller-doer is the role of the future. As the construction industry becomes more efficient and our workplaces more competitive, the onus is on the individual to stand out because of what he or she brings to

the table. In the case of students and employees, the ability to communicate effectively, generate new business and participate in the sales process will likely be the silver lining that separates the superstars from the average Joes. **Q**

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Myths of the Seller-Doer

Rainmakers who can sell and also have strong technical skills are in great demand in the industry today. The seller-doer role is the next evolution for people with a technical perspective. Good at their individual areas of focus — project management, estimating, pre-construction, etc. — seller-doers can extend relationships with existing customers and support the winning work with a new customer, all the while delivering competently in their area of expertise.

Effective seller-doers must balance the time needed for project management, estimating, pre-construction and so forth, with the additional time required to meet with clients, build new relationships, help discover hot buttons and position their firms above the competition. However, not everyone with strong technical skills will be able or have the motivation to be a seller-doer — so what does it take?

We have to first start with dispelling the two most common myths about seller-doers:

- **Myth One:** To be an effective seller-doer, you have to be a talkative, extroverted person. Wrong. Many of the industry's top seller-doers are more introverted than extroverted. What differentiates them is the intellectual curiosity about the customer and their project. They are committed to finding out how their company can best serve that customer's need and are willing to invest the time and effort to accomplish that.
- **Myth Two:** Seller-doers get into selling because they lack technical depth. Wrong again. Strong seller-doers possess technical expertise that customers are interested in. Seller-doers have an advantage over full-time business development people in that regard. They can talk to the client in specific terms about projects and describe their organization's differentiation points.

The Key Skills That Effective Seller-Doers Possess

When determining whether a new candidate might be successful in a seller-doer role in the future, it starts with first ensuring they have customer-oriented technical skills and the experience necessary to gain a broad perspective. They must be effective doers first and then they must also possess these attributes:

- Demonstrates client care
- Intellectually curious about the customer's business
- Asks good questions
- Listens actively and effectively
- Articulates complex situations clearly and simply
- Envisions the project from the customer's point of view
- Exhibits creativity
- Manages their time effectively

Tips for Interviewing Recent College Graduates

Gauge prospects' future potential as seller-doers by looking into what they did in addition to their course work. Find out about the clubs and groups they participated in. Find out about projects they were engaged in that allowed them to get to know a real company. Strive to learn about their interests and ability to effectively manage time in a way that allowed them to participate in extracurricular activities and jobs.

Look for signs that a student worked on a client project as part of his or her studies. Many universities and colleges now have course work where students participate in consulting-type projects. Such endeavors give students valuable exposure to companies and allow companies to sample future talent coming from the university. In both cases, ask questions similar to those listed below:

Questions to Ask

GROUPS AND CLUBS

Tell me about groups and clubs that you have participated in while in school

- What was your role?
- What did you learn?
- What aspects did you enjoy most?
- What would you tell prospects about why they should join?

What to Watch out for

- Engagement and participation beyond just attending meetings
- Enjoyed being active and volunteering additional time and effort
- Sought out roles helping others — community events, sponsorships where they interfaced with outside businesses

CLIENT PROJECTS

Describe the project that you were engaged with?

- What was the problem/challenge that was being solved?
- Why was the customer/company interested in solving that particular problem?
- How were you assigned/selected to that team?
- What was your role?
- What was the solution your team presented?
- What did you learn?

- Understood the project from the customer's point of view
- Recognized the potential to impact the customer's/company's business
- Displayed sensitivity to the customer and the interactions therein
- Understood why the customer might have been frustrated to participate in the process and the need for a deeper analysis. Tried to do more for the customer than contracted or expected

Strong future seller-doers are people who have a love for the technical aspects of construction and an affinity toward the customer's business. It takes a balance of skills — both selling and doing. They do not have to be the high verbal types who like to talk a lot, but they do need enough intellectual curiosity to want to dig deeply and find out the customer's challenges and how your firm can help solve them.

Construction projects are complicated endeavors. At the end of the day, construction projects are being built for clients who need solutions to their business problems. Individuals who have the natural curiosity to want to find out the customer's point of view are the ones who will naturally grow into very successful seller-doers. All you have to do is support and nurture their growth.

JAKE APPELMAN
AND KEN ROPER

Building Great Strategic Business Unit Managers

What is your plan
to grow or hire the
“right person” for your
strategic business unit?

As optimism and sustained growth make their way back into the engineering and construction industry, a familiar threat is returning: the war for talent.

But this time the landscape is different. Not only is the war back on, but it has become even more acute. The current domestic oil and gas boom in the United States is rapidly driving high salaries and a return to aggressive recruiting tactics.

In this environment, key positions such as Strategic Business Unit (SBU) leaders are essential as companies expand market reach. Broadly defined, an SBU leader has primary profit and loss responsibility for a region, office or practice area. Essential functions include business development, revenue and profit growth, operational expertise, staff leadership and management.

Finding the “right person” for an SBU position is critical to business expansion. Yet because of the demographic bubble that brought us waves of baby boomers (and few Generation Xers to fill in the gaps), the available pool of talent is very small. Additionally, very few engineering and construction firms — other than the megafirms — have historically been successful in integrating key outside hires for executive positions like SBU leaders. Most still find experienced outside hires a high-risk, expensive solution due to uncertainties of cultural fit.

With all of these factors in play, finding the right person can feel a lot like bobbing for apples. However, using and assessing specific competencies when hiring candidates from the outside or promoting from within can significantly increase the likelihood of a successful hire or promotion. In this article FMI examines five critical competencies that separate star performers from average performers in SBU positions.

#1: Skilled in Leadership

Leadership is an essential competency at the business-unit-management level, yet many companies promote people into SBU positions because of their long and proven histories of successful management. The best business unit leaders combine the more observable and quantifiable planning, organizing and driving-results skills with the less tangible — but equally important — leadership abilities. Specific leadership abilities in these positions include:

- **Setting direction.** Developing, communicating and aligning a business unit toward a common vision that transcends day-to-day operations and communicates a compelling sense of purpose.
- **Aligning resources.** Putting the right people in the right positions that play to individual strengths and creating a driving sense of personal ownership for business unit success.
- **Developing talent.** The best business unit managers recognize that talent acquisition and development is an essential part of their role. They actively and constantly recruit, coach, provide feedback and manage talent.

True leadership is a rare and valuable commodity. There is usually a direct correlation between leadership competency and revenue/profit growth in a business unit. When selecting SBU leaders, executive teams should take a deep and honest look at how candidates drive results in their current roles. Many make the mistake of selecting candidates who get results through individual gifts like the stamina to work extreme hours, exceptional intelligence and charisma. The most effective performers in these roles, however, know how to balance the subtleties of understanding when to lead, when to manage and how to bring the best out of individuals and the team.

True leadership is a rare and valuable commodity. There is usually a direct correlation between leadership competency and revenue/profit growth in a business unit.

#2: Strategic Thinker

Great leaders in business unit leadership roles possess a deep and nuanced understanding of the volatility, uncertainty and complexity of construction markets. They know how to move quickly to take advantage of opportunities. They also know when to act and when not to act. They focus intensely on their markets and customers and are students of political, economic and social trends that drive their businesses. Most importantly, they can quickly and intelligently sort through all of this data and clearly articulate the information into a specific plan that creates a sustainable competitive advantage. Effective leaders in these positions are close to key stakeholders (i.e., owners, developers, designers, financiers, general contractors/construction managers and local craft labor), and they understand how their deliverables bring value to their customers.

Successful SBU managers are opportunistic and entrepreneurial. They also operate with disciplined and purposeful strategic intent. These leaders constantly encourage their staff to challenge traditional models of execution, business development and planning. The most effective among them deeply embed this ability at all levels of their business units, ensuring that they are not the sole source of strategic thinking for those units. They also take on the hard work of ensuring that the strategic thinking is captured, tracked and reinforced constantly.

Top business unit leaders recognize the difference between rapid, opportunistic growth and controlled, intentional expansion.

#3: Growth-Oriented

Top business unit leaders recognize the difference between rapid, opportunistic growth and controlled, intentional expansion. They also understand the important distinction between revenue increases and profit growth. Controlled, profitable expansion is highly desirable in a construction business and aligns the organization to customers that are also growing. However, growing faster than one's capacity is a primary cause for contractor failure. In other words, an extreme rate of growth is neither sustainable nor healthy.

The SBU manager should have the core competency and strength to resist out-of-control conditions and build adequate organizational capacity that sustains the growth rate. Controlling and managing the construction process is key to managing the high-risk environment in the industry. Few people realize that the construction industry's **pretax profitability** is 2.0% (or less) at the

Many times, a nose for profit appears to be an inborn set of instincts when it is actually the product of many years of experience and intentional reflection on experiences — both successes and failures.

unique challenges. This role requires being close enough to the work to know what needs to be done and then building the systems and processes to do that work consistently and profitably. Process and procedures that are self-reinforcing and driving the right behaviors are the cornerstones of project execution.

Edwards Deming, the master of quality, stated, “Variability is the enemy of quality in manufacturing” (productivity in construction). Insistent compliance, coupled with appropriate process, will yield high rewards. Managers who have the discipline to create effective and efficient systems benefit from higher quality, productivity and profitability. The SBU manager understands this investment results in superior execution and performance for the company. Compliance with prescribed process and procedures is not optional in these companies, and people are trained in application of systems as part of their organizational roles.

#5: Business Acumen

Many times, a nose for profit appears to be an inborn set of instincts when it is actually the product of many years of experience and intentional reflection on experiences — both successes and failures. As the lifeblood of a construction business, cash flow requires considerable attention along with the constructability of the projects. The ability to anticipate cash flow behavior and constructability issues are all part of the business acumen required of the successful SBU manager. Other critical business acumen skills necessary for the job include knowledge of banking, bonding and relationship management with all stakeholders.

general contractor level and 3% to 8% for the trade contractors. At those profit levels, you must manage growth rate and the associated risk from operations. SBU managers who succeed have controls and processes in place to ensure balance between capacity and growth rate.

#4: Systems Builder

SBU management requires a passion for consistent execution. While a company like McDonald’s is known for delivering a consistent product and experience in every restaurant, a construction leader faces the unyielding demand of driving repeatable process in a business where each project has

Conclusion

Using these competencies in a disciplined and rigorous process of identification and selection, and subsequent talent development will significantly improve hiring and promotion decisions, speed up time to contribution for new SBU leaders, and ultimately drive business unit growth and profitability. Training and developing these skills is not easy, but these tasks are more achievable using specific, measurable and assessable developmental areas. In today's competitive business environment where critical business units play key roles in financial performance, the development of these positions is a strategic imperative. What is your plan to grow or hire the "right person" for your strategic business unit? **Q**

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JOE POLIAFICO
AND DAVID MADISON

Bridging the Gap

Communication
and process execution
is the cornerstone
of any risk management
program.

Because of their experience in recent years, contractors face the reality that though the work seems to be coming back, margins may not rebound as quickly. Contractors accept that risk is an inherent part of the business; however, some are more risk-prone than others, often without intent. An unfortunate byproduct of this approach is that some contractors become numb to the risk they assume.

Tougher markets and tighter margins have many contractors rethinking the role of risk management in their organizations. Every organization approaches risk management in a slightly different manner, and, currently, there is inconsistency in the industry for a variety of reasons. Firms must more holistically manage the risks they face in today's market to ensure the longevity of the organization. Increased exposure may lead some firms to designate a risk manager. However, holistic risk management means that risk management is embedded throughout the organization.

Who is Responsible for Managing Risk?

Larger, more sophisticated contractors have understood that a risk manager who sits at the executive level generally leads a "best-in-class" risk management program. This individual has input on management decisions ranging from

strategy to operations and project delivery. Not every contractor has the luxury of being able to hire a dedicated risk manager, but that does not infer the risk is nonexistent or that the responsibility should not be assigned more broadly.

The manner in which organizations approach risk management will vary. In organizations that lack a dedicated risk manager, for example, the risk management function is often disaggregated between financial and operational silos. At a macro level, this segregation is natural. However, in many organizations these two silos often fail to communicate at a meaningful level, potentially allowing issues to fall through the cracks and leaving possible gaps in the risk management program.

Let us consider the disaggregated approach and how the risk management function operates in many organizations with this model. In the financial silo, the burden of risk management most commonly falls on the CFO, with the knowledge that buying insurance and paying claims is only part of his or her laundry list of duties. This person must also compare coverage and set the internal and external rates that the company will charge for insurance costs. In many organizations, the CFO's job description has changed dramatically over the years, so many tend to rely on relationships with insurance brokers as trusted advisors to help with these decisions.

Once insurance is procured and internal rates are set, the operations team is responsible for the heavy lifting and for a significant share of the risk management function. We can all agree that, in its simplest terms, risk management is not only the identification of risk but also the avoidance of loss through proper management.

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It is easy to imagine a situation where the financial silo purchases insurance coverage for a project with the expectation that in the event of any claim, operations will handle the claim effectively and efficiently. At this point, the financial silo considers that particular risk managed and effectively handed off from one silo to another. In reality, the operations silo may not completely understand the coverage or even know that it has coverage for a particular issue

when and if a problem arises. Without proper communication and coordination, this has the potential to increase costs, thereby eroding potential profit on the project and, in the worst-case scenario, eroding a firm's balance sheet.

We use the silo analogy to illustrate the reality of the situation in many organizations. However, in best-in-class organizations, regardless of the presence or lack of a dedicated risk manager, these silos have no hindering effect on the risk management process. Although these two silos are responsible for managing certain areas of risk, best-in-class firms have the support mechanisms and processes in place to communicate potential problems, and the tools in place to analyze and manage them accordingly.

Bridging the Gap

While traditional silos don't necessarily need to be broken down, the responsibilities of the individuals within those silos should be tweaked to allow for regular communication. Best-in-class construction firms consider risk management more holistically and give the following functions consideration

when building their risk management program. Doing so positions them to manage risks that might have otherwise fallen outside of the operational and financial silos. To simplify how contractors need to view risk more holistically, the following four areas should be addressed in a risk management program:

Strategy: An important part of your overall strategic plan is a discussion around the collective identification, assessment and management of risks. Firms should consider direct, more obvious risks that may be significant at a local level, such as staffing and job procurement. They should also think about global risk that may affect a firm

Developing a solid risk management program for clients and then promoting it to them will separate you from your competition and, at the same time, help improve your profit margins.

more indirectly and that may not necessarily have an obvious correlation with the business. The all-to-recent mortgage crisis is a perfect example of a macro-economic event that resulted in numerous downstream and indirect effects for the construction industry.

Business Development and Preconstruction: Owners may think of most contractors as a commodity. Developing a solid risk management program for clients and then promoting it to them will separate you from your competition

The message of managing risk must be communicated to everyone in the organization.

and, at the same time, help improve your profit margins.

Operations: Getting “buy-in” at all levels of the operation is key. The message of managing risk must be communicated to everyone in the organization. Employees need to be shown the value and benefits of a risk management program. Employees generally need lots of examples as to how they can assist

in the risk management process because to many employees, risk management is an abstract term. Great communication involves turning the abstract into real-world, practical actions that can be envisioned, remembered and implemented frequently. Best-in-class contractors put their subcontractor management and safety program (key parts of their risk management program) on display during the procurement process and have found that these strengths resonate with owners.

Finance: Being able to quantify risk and explain it to the company will go a long way in helping to promote a good risk environment. As the insurance landscape changes, the available options for determining insurance program architecture will also change. Contractors that embrace and manage risk effectively will be able to assume as much appropriate risk as their balance sheets will allow.

Whether your firm is positioned to hire a dedicated risk manager or not, the need for organizational risk management is the same. Contractors can no longer afford to let conversations affecting risk happen in a vacuum without the principal players in the room. Risk management discussions should be more frequent in the C-suite and take up a larger portion of the CEO's desk. Companies must provide a forum and a structure for these conversations to take place so that roles and responsibilities can be effectively defined and communicated. By committing the time and effort, risk identification and mitigation strategies can be outlined and a message sent to your organization that risk management is a now an integral part of your

Whether your firm is positioned to hire a dedicated risk manager or not, the need for organizational risk management is the same.

process and culture. Education and compliance measures should be part of the risk management process.

Done correctly, your risk management program can be integrated into your organization with little disruption of day-to-day operations or overall performance. In fact, addressing risk in a holistic manner and increasing the level of communication can give the entire organization an incremental business lift.

Communication and process execution is the cornerstone of any risk management program.

processes that are in place and the knowledge and motivation of the people who are using them. Communication and process execution is the cornerstone of any risk management program. Firms that recognize the usefulness of a more formal program will increase their chances of thriving in an ever-shifting construction landscape. **Q**

While we may have seen the high-water mark in the industry as far as margins are concerned, contractors are a resilient bunch. Forced to find alternative revenue streams while protecting their balance sheets, many have seen the benefit of a solid risk management plan as a way to address both issues. These plans are only as good as the

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MARK HOOEY AND TOM ALAFAT

Developing Your Personal Mission Statement

Reflect and revise your mission statement to gain enjoyment and inspiration in life.

Knowing your purpose in life is bedrock to your professional and personal development. In order to lead others well, we must first lead ourselves.

First, discover ourselves and then authentically express who we are.

Creating a personal mission statement provides a compass and points you in the direction you want to go.

Having a personal mission is an essential ingredient of excellent and great leadership. Your personal mission statement helps provide purpose, guidance, wisdom and power, and defines your reason for being. The statement is like a personal constitution—providing a basis for decision-making and standards by which to live.

As leaders, we perform many tasks and juggle multiple priorities. We need clear direction to help us manage all the uncertainty and daily challenges that confront us. A personal mission provides us with guidance when making decisions. Every decision we make should align with our personal mission. In this way, our mission acts like a compass, always pointing us in the right direction.

A personal mission statement can keep you focused on what really matters in your life, both professionally and personally. It clarifies the fundamental philosophy and personal values under which you wish to operate.

Your mission is different from a goal. Goals are often the steps you take while working to fulfill your mission. For example, you may have a goal of

“developing coaching skills” as a piece of your overall mission to “build leaders in my organization, my family and my community.”

Writing a Personal Mission Statement

Writing a personal mission statement is a powerful exercise in taking ownership of your life. You may be climbing the corporate ladder, but you need to make sure the ladder is leaning against the correct building. In other words, is your life going in the desired direction?

Consider the mission statement, *“My mission is to encourage, in myself and others, personal development, creativity and innovation in all areas of work and life.”* This statement clearly defines the direction in which the individual is

There is no right or wrong activity, except within the context of your mission. Your mission articulates what is “right” for you.

going. In the workplace, this may involve coaching employees and developing one’s own leadership skills. It may also mean a greater focus on creativity and product innovation to meet the growing needs of the organization. In this individual’s personal life, it may result in the pursuit of creative and innovative hobbies or raising children with these values. In each case, there is a clearly defined direction for his or her current and future actions.

Writing a personal mission statement helps align your time and talents with what is most important

to you. A written mission statement gives you the confidence that you are spending your time in the best possible way. Alignment of your activities and your values is energizing!

The statement, *“My mission is to encourage, in myself and others, personal development, creativity and innovation in all areas of my work and life,”* will enable this individual to identify activities that encourage personal development, creativity and innovation. Coaching employees or Little League may be more meaningful for this person, for example, than spending the same amount of time writing memos or mowing the lawn. There is no right or wrong activity, except within the context of your mission. Your mission articulates what is “right” for you.

In addition to providing direction, your personal mission statement will become the means to achieve great fulfillment and satisfaction. Knowing and living your mission not only enables you to perform and achieve results, but also is a source of inspiration and excitement—your fuel for continued achievement.

A person with a mission to “encourage, in myself and others, personal development, creativity and innovation in all areas of my work and life” will be excited to go to work in the morning if he or she is able to implement new ideas.

How to Write a Personal Mission Statement

OK, so you are ready to write your personal mission statement. Where should you begin? It is important you seek to detect your mission and not invent it. You are going through a process of discovering your mission. Your mission is unique to you. Here is a six-step process that will help you articulate your mission or your “reason for being”:

STEP 1—Set aside some time in a quiet place where you will be able to concentrate and reflect.

Writing a mission statement is neither easy nor instant. It is not an event, but rather a process. Think of the mission statement as a living document that will grow with you over time as you reflect on it and refine it.

STEP 2—Answer questions about yourself.

The words you use are not as important as the concepts. If you come up with words that do not feel quite right, look them up in a thesaurus to find similar words that may better describe you. (Keep these guidelines in mind when answering the questions on the following pages.)

Identify Your Passion: Your mission should include the things you are passionate about in life. Consider the following questions about your purpose and passion, understanding that you may have different responses for your different roles — as employee, family member or member of the community. Attempt to identify the areas where they overlap. This is where you will find the most meaning in your work and personal endeavors.

- What is most important to me?
- What makes me whisper a victorious “Yes!” when I have done it for the 100th or 1,000th time?
- What do I live for?
- What is my reason for being?

Discover Your Strengths: Your mission will involve activities that you are already good at for the benefit of yourself or others. The best leaders lead from their strengths. Do you know your strengths? We are usually blind to our true contributions because

The best leaders lead from their strengths. Do you know your strengths?

they are the things that come easily; we do not think about them. Answering the following questions may help you uncover some of these strengths:

- What do I do that causes other people to say, “You are really good at...”?
- What do I believe are my greatest strengths?
- What am I good at which I could become great?

Identify Your Values: When creating your personal mission statement, it is important to align your reason for being with what you value. Think about what you value by asking yourself:

- What activities do I consider of the greatest worth at work, at home or in the community?
- What do I stand for?
- To what group or cause would I be willing to devote my life?

Pinpoint Your Principles:
Your principles are the character attributes that guide your actions. In determining your principles, consider the following questions:

- What character attributes do I admire most in other people?
- What principles—if I lived by them—would be most beneficial?

Define Your Empowering Vision: Creating a vision that identifies where you will be when you have lived your mission is a powerful motivator. Do this by considering the following questions:

- What would I want close friends to say about me on my 90th birthday?
- What character qualities are important to me?
- What difference do I want to make in the lives of others?
- What is my legacy?

Discern Your Mission: Now that you have thought about your passion, strengths, values, principles and your vision for the future, look back at what you have written and answer the following questions:

- What have I discovered about myself that is central to who I am and what I stand for?

Creating a vision that identifies where you will be when you have lived your mission is a powerful motivator.

- What is my reason for being?
- Why do I do what I do?

STEP 3—Write your mission statement.

Your answers to the three questions under the “Discern Your Mission” section represent your personal mission. Combine your final responses into a succinct statement. Consider the following:

A good mission statement should:

- Be simple enough for a child to understand
- Contain action verbs
- Be short enough to be recited from memory
- Fit you 100%
- Be inspiring, exciting, clear and engaging
- Encompass your personal and professional life

A good mission statement should not:

- Be limited to your current role
- Reflect only your “to-do” list
- Be limited by geography
- Be something totally new
- Be unattainable by you
- Reflect others’ expectations
- Imitate others’ missions
- Focus on one person
- Be trite or ordinary

Close friends tend to know our strengths and passions and may be more aware of our mission.

STEP 4—Have others confirm your mission or challenge it.

Although it is your mission statement, you will want to solicit feedback from people who know you well. Close friends tend to know our strengths and passions and may be more aware of our mission. Others may be able to provide some insight to help you simplify or clarify your mission statement.

STEP 5—Live your mission.

Living your mission should inspire, excite and motivate you. As you focus more on activities aligned with your personal mission, you will find more fulfillments and less frustration in your daily activities. Like physical exercise, your mission is most effective when experienced as often as possible.

Look at your calendar and see if your commitments align with your mission. You may need to change some plans or add activities that blend well with your mission.

Even if you are not sure you have it quite right, try it out! The process of discovery is not complete once you have written a statement on paper. Only by making decisions that align your mission and activities will you continue to discover your mission.

STEP 6—Revisit your mission statement regularly, at least once a year, to make sure it still fits you.

Ask yourself regularly:

- Am I thriving or just surviving?
- Am I whispering a triumphant “Yes!” more often?
- Does my personal mission statement excite and inspire me?
- Am I happiest when living aligned with my mission?

If you are just surviving, or if the answer to any of these questions is “no, not really” or “not always,” then it is probably time to revisit your mission statement. Review your responses in Step 2 as well as the feedback you received and take another stab at writing your mission statement.

The more time you spend reflecting on your mission statement and revising it, the more it will truly fit you, and the more you will find the enjoyment and inspiration that comes from living out your personal mission. **Q**

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RYAN HOWSAM
AND DAVID MADISON

Project Risk Assessment

Companies can no longer afford to have dated and inconsistent pricing techniques.

Risk management is no longer just a defensive strategy. The more sophisticated and formalized a company's risk management processes are, the more opportunity a contractor has to profit from mitigating and managing the associated risks. The post-economic downturn has created an environment characterized by more risk than ever before. Based on this environment, contractors must manage risk differently than they did five years ago. However, when it comes to bidding projects, contractors have been slow to react to this new environment and continue to bid projects as they historically have done.

While the construction market in many regions is improving and there is some cause for cautious exuberance, many contractors are still experiencing crowded bid boards and competition willing to pursue work at near break-even (or worse) margins. As the pressures mount to build the backlog and keep "feeding the machine," it has never been more important for contractors to understand and quantify the risks associated with a project prior to submitting the bid. The ability to price the risk consistently and accurately will help contractors

win the right work at the right price and gain long-term strategic advantage over the competition. Those contractors who have successfully implemented a best-in-class Project Risk Assessment program experience greater margin gain and less margin fade.

Foundation for the Process

Just as each company has a unique culture and a collection of individuals with a broad range of skill sets, each company's Project Risk Assessment process will be unique. Every organization has a sweet spot for the types of work it executes and clients it works for, thus each customized/individualized Project Risk Assessment should reflect this project mix through the elements it analyzes and process it follows. However, the basic foundational structure of a formalized Project Risk Assessment Process must be supported by the following elements to ensure success:

- **Processes** — Repeatable and well-defined processes that are a part of normal work routine and used consistently across projects.
- **Tools and Techniques** — Scalable tools that are a fit for your organization and reflect project risks that are germane to your organization.
- **People and Behaviors** — Without the support of management and delivery teams that own the risks, the processes and tools are irrelevant.

Structure of the Process

There are many ways to categorize and organize risk. FMI approaches the assessment by placing risks in two primary buckets: constructability elements and external elements. These two elements represent the project characteristics related to other interested parties and the physical project. Three key elements that thematically carry over into all project areas for consideration include financial, safety and insurance elements. These elements span the external and constructability elements and are included throughout the other categories (Exhibit 1).

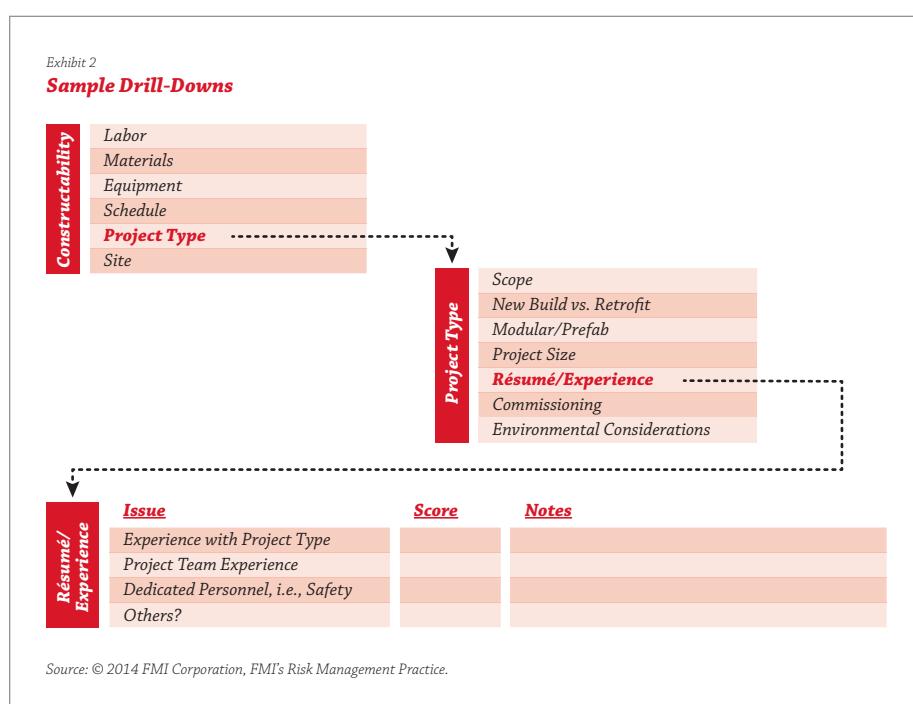
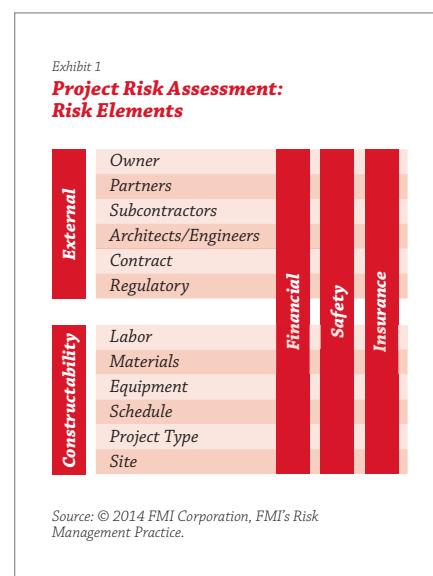
Once the potential areas of risk are identified, they can be analyzed, weighted and scored at a simple level. This helps an organization determine how to appropriately price the job. An illustrative example would be analyzing

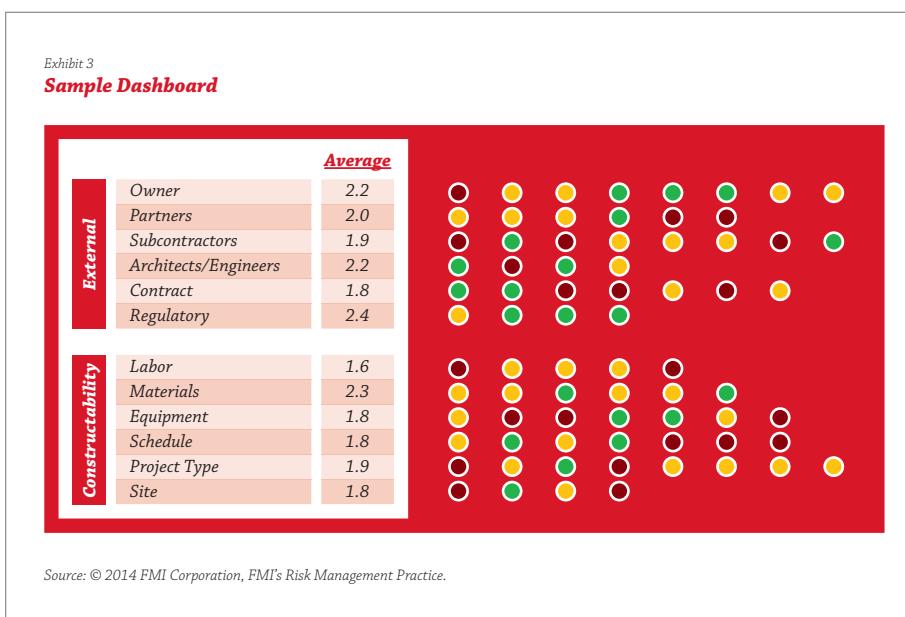
Just as each company has a unique culture and a collection of individuals with a broad range of skill sets, each company's Project Risk Assessment process will be unique.

the external risk element of the contract. The identified issues are examined and scored against the firm's risk tolerance level as it relates to the individual risk element (Exhibit 2).

The final output is a Project Risk Assessment dashboard that displays the risk elements individually scored to provide the reviewer with a green, yellow or red rating (Exhibit 3). This rating allows the company to price the project appropriately. This idealized price for the project is then adjusted to conform to the competitive environment and job-chase strategy employed by your project chase team.

Companies may still make a business decision to submit a bid with a lower cost than the Project Risk Assessment process indicates. However, it is the awareness and quantitative analysis of this deal that drives the ultimate decision on how to strategically price the job (which helps provide a final go/no-go decision for the company). Yet, unlike a prior bidding process without a full-blown Project Risk Assessment, the contractor now has a consistent and clear picture of what risks are faced on the job. Moreover, based on the





deal between ideal risk pricing and the submitted bid, the contractor has the information and ability to adjust project management strategies as the margin risk dictates.

Benefit to the Field

In the event of successful project pursuit, the Project Risk Assessment provides valuable information to the project planning and operations teams. These teams gain a deeper understanding of the project risks and can build the appropriate risk register to effectively manage those risks for the project's duration. Identifying the risks pre-mobilization allows those risks to be included as discussion points in the pre-job planning process. This creates a heightened awareness around the risks on the job site that can positively affect productivity. Essentially, Project Risk Assessment provides an incremental lift around all project planning and execution, and the potential exists to profit from the risks identified through effective mitigation and management.

Scalability and Support of a Growth Strategy

This process is scalable from local companies with a single office location to regional and national players with multiple satellite offices and business units dispersed geographically. Companies with multiple geographic locations must have a clear line of sight from the home office to their various locations regarding how they price and bid work. The risk in our industry is hardly limited to our home markets. The issues created by utilizing unfamiliar subcontractors, working outside your market geography, entering new markets and chasing project sizes and types not traditionally in your sweet spot all compound the risks that must be accounted for and priced for on projects you bid. Without a

consistent process to apply the appropriate contingency and fee to a job during the bidding process, companies run the risk of variable bidding across all markets and bidding and winning jobs with unacceptable risks that are inadequately priced. These businesses are more likely to encounter significant margin fade across their portfolio of projects.

Conclusion

Every company employs seasoned estimators who can price jobs in their sleep. As the risk environment changes, as companies grow, and as new competition enters their markets, contractors must have a more consistent process for training and onboarding new estimators to ensure bidding process consistency. In this riskier environment, companies can no longer afford to have dated and inconsistent pricing techniques that lack a formalized Project Risk Assessment process. Challenge your organization to adopt a Project Risk Assessment process that helps you appropriately price your jobs, to have a clear understanding of the risks you are already embracing, and to operate more profitably. **Q**

As the risk environment changes, as companies grow, and as new competition enters their markets, contractors must have a more consistent process for training and onboarding new estimators to ensure bidding process consistency.

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DAVID MADISON, RICK TISON
AND TYLER PARÉ

Deconstructing Data

Data-driven
strategies create
competitive advantages.

Do you consider your company to be “data-driven?” Undoubtedly, you and your colleagues collect an enormous amount of data. However, are you collecting the right data? Are you merely monitoring data, or are you leveraging data to make informed decisions about the business?

Empirical analysis can be applied to every aspect of the contracting space: work acquisition, pricing, operations management, personnel development and more. As data platforms become more sophisticated, it is becoming easier for contractors to turn mass amounts of data into information and ultimately into knowledge. Best-in-class firms have recognized the value of data-driven strategy and are using it to derive competitive advantages. So do you consider your company to be “data-driven?”

Why Data?

Quality information is gleaned from quality data. The better the information managers have at their disposal, the more objective they can be in making critical business decisions. Without data, managers must rely on gut instinct, intuition and pure boldness to make pivotal decisions. While we can’t extract the human element from management, and there is no substitute to good ole fashion business savvy, we will drive an argument that a better understanding of relevant data creates clarity in the decision-making process and ultimately improves outcomes.

We'll start by examining the advantages of data and the functional opportunities that it provides.

Pursuing Work — Strategic Business Development Efforts

There is no business without sales. "Feed the Beast" is the sentiment that many contractors use when it comes to work acquisition. Significant fixed costs and the livelihoods of loyal employees are just a couple of the mentionable drivers that make business development a paramount focus for construction business owners.

Each construction "sale" is unique and presents its own challenges, risks and opportunities. Selecting the right opportunities for your business is extremely important. A business development strategy outlines which customers and markets you will focus your resources towards, and the value proposition(s) you will convey to them. The goal is to target opportunities that will yield the highest returns for the business.

There are several critical questions to be answered prior to developing a comprehensive business development strategy:

- Who are your best clients (currently and potentially)?
- What type of work fits best with your core competencies?
- Geographically, where has your firm enjoyed the most success?
- Are you more profitable on large projects or small projects? (Define Scale)

Coming up with answers to these questions can be precarious. Sometimes the perception of profitable work can be skewed by revenue volume or relationships with a particular customer, market segment or geographical area. Due diligence through data analysis can help dissolve faulty notions about the work opportunities that you pursue. Start by analyzing profit at the gross margin level.

$$\text{Final Gross Margin} - \text{Original Estimated Gross Margin} = \text{Margin Gain}/(\text{Fade})$$

Gross margin gain/(fade) is a metric that objectively measures how the execution of a project stacked up against the contractual promises that were

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made. This metric is influenced by every component of the construction business: estimating, business development, documentation, execution, customer service ... the list goes on. The key is to identify curious trends in gross margin gain/fade, then dive deeper into the data for answers. Consistent margin fade in a particular area may point to inaccurate pricing or inefficient execution, or a combination of the two.

Pricing Work — Strategic Estimating Efforts

Price, estimate, costs, budget, bid. Often these terms are used interchangeably, with shades of gray. But they have completely different meanings.

Rule No. 1 — An estimate is not a price.

An estimate is a reasonable assumption of project costs (direct, indirect and overhead), based on a professional evaluation of contract documents and an intimate understanding of company or divisional overhead. A price is an estimate plus a risk-adjusted margin. The accuracy of a true cost estimate on bid day is fundamentally the single greatest source of financial risk to a contractor. That being said, there is no such thing as a perfect estimate. That's why it's called estimating. "Close" counts in horseshoes and hand grenades ... and construction estimating. Being close is good. Being closer is better. We want to be as close as possible to the true cost of the job. By analyzing historical cost data, firms can improve their estimating accuracy. Look for projects with shared characteristics that exhibit gross direct cost overruns. You may wish to consider

project supervision or project management. Who ran the jobs with cost overruns? Who estimated the jobs with overruns? Further dissect those overruns by direct cost category — i.e., labor, material, equipment, subcontracts and other direct costs. The sources of gross margin fade can be found in your historical cost data. You just have to know where to look.

"Those who do not learn from history are doomed to repeat it."
— WINSTON CHURCHILL

Churchill understood the value of empirical analysis: Learn from the past, better the future. If you want to learn from the past, you have to study it. Most contractors have libraries of data that contain extremely valuable information. The question is how to extract that information and turn it into knowledge.

Performing Work — Cost Tracking and Feedback

It's 8:30 a.m. on one of your projects. Does your superintendent/foreman know the score on the scoreboard? Said differently, do your

leaders in the field understand where the project stands today relative to the budget, and are their actions of the day influenced by that knowledge? If we want managers to care about the budget, we have to share the information with

them. Sharing information requires a level of trust that is counterculture in many organizations. The impetus for cultural change must originate from company leadership and be embraced with patience by the collective.

Additionally, the information we share must have integrity. The budget that we share has to be realistic, and the data collected from the field needs to be accurate. Furthermore, the reporting of data must be timely and relevant. All of this requires administrative burden that can be very off-putting for decision-makers in construction firms who consider any incremental increase in overhead to be taboo. However, is the cost of not knowing where you are on a project significant enough to justify marginal increases in overhead? Those who say “nay” may be one catastrophe away from changing their tune. In any event, the risk of cost overruns is real and significant. Diligently tracking project-cost data can greatly improve your firm’s ability to identify risks and mitigate losses.

Other data applications to project execution include:

- **Blend Rates** — What is the blend rate on your project relative to the estimate? Does a greater number of less qualified, cheaper labor result in the expectations set forth for fewer, highly skilled, expensive laborers?
- **Change Order Management** — Is there an average threshold in the quantity or volume of change orders at which your project margins begin to fade? If so, what changes would you make in your firm’s approach to change order management?

Data 360

Is your estimating department set up to execute your business development strategy? Is operations set up to do the same? Does estimating understand the abilities of operations? Does operations provide quality feedback to estimating? Is business development monitoring project performance against estimated gross margins?

To be a truly data-driven firm, you have to link data collection and analysis across all functional areas of the business. The manner in which one functional

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group interprets data may be completely different from the conclusions derived by other departments. Sharing information and challenging conventional thought with arguments based on objective data helps firms continuously improve. Collaborative data analysis also drives company integration and can eventually streamline data processing.

How to Collect the Data

Over the last several decades, the proliferation of technology has been a huge catalyst in support of the collection, analysis and understanding of data. There is a multitude of tools, applications and software options to consider, and for functional reasons, one may work better than the next for your organization. Regardless of the tool itself, the behavior and the process have to be a cultural commitment. Without support from the field to the front office,

a data strategy will quickly be regarded as a sunken cost in a software “that just didn’t work right.” Yes, technology is constantly changing, and, yes, teaching stubborn employees can be a tedious process, but the clarity gained and the improved performance of precon and operations have been seen as a convincing force throughout organizations with which we have worked. Repeatedly, we have seen the biggest cynic become the biggest advocate.

There is no shame in starting small when it comes to data analysis. In fact, many contractors shoot themselves in the foot by trying to become Google overnight.

more critical than up-to-the-second information. For an operations team, however, both accuracy and timeliness are paramount. Accurate and timely cost and production figures can greatly support the management of an operational team, and, likewise, inaccuracy can quickly undermine the process.

Whether your firm uses iPads or carbon paper, you are already collecting vast amounts of data. Investment in new systems and platforms will come with time, as your demand for data horsepower dictates increased sophistication. There is no shame in starting small when it comes to data analysis. In fact, many contractors shoot themselves in the foot by trying to become Google overnight. If change as a whole is hard to swallow, change with a side of technology is even harder to swallow. Start by assessing your current systems

and processes for data collection. If your data strategy requires investment in IT, proceed with caution and practicality.

What to Collect

The raw material of data-driven decision-making is none other than data. Without collecting, storing and analyzing data, firms cannot expect to make data-driven decisions. That said, not just any data will do. The data collected, stored and analyzed must inform a key decision of the business — need-to-have data, not just nice-to-have data.

Because construction is a project-based business, many examples of need-to-have data exist at the project level. As previously mentioned, this would include tracking variances between estimated and actual margins on a project right down to the level of direct costs. Project-specific, however, is still too broad a category. In addition to particulars of the actual project (e.g., job type and size, duration, location, delivery method, contract method, etc.), critical data about the project can fall into three other categories:

- Customer data, such as client name, market sector, nature of relationship
- Cost data, such as direct cost breakdowns and comparison of estimated direct cost values to actual values
- Company-specific data, such as members of the project team, business unit, office location

To further complicate the matter, what we track is going to change throughout the project life cycle. What we need to know about the project in each of these categories is not the same during the opportunity phase as during project pursuit, bid, construction or post-construction. As the data requirements change, a decision must be made as to whether the now old data can simply be overwritten, or if it must also be captured and stored for analysis at a later point.

The challenge most organizations face is not finding enough data to collect, but rather collecting the data and determining what to do with that data once it is collected.

The challenge most organizations face is not finding enough data to collect, but rather collecting the data and determining what to do with that data once it is collected. As is the case in many elements of business planning, the key is to start with the end in mind. What business decision are we trying to solve, and

what data do we need to inform that decision? Data efforts should align with addressing the key business decisions across the project life cycle from new opportunity to project pursuit to project performance (See Exhibit 1).

To answer these simple business questions, companies should consider tracking the following metrics:

- Revenue
- Margin and margin gain(fade)
- Hit rate and project pursuit cost
- Variance in cost categories

At a minimum, each of these should be tracked in such a way that supports analysis by customer, project type, market sector and project team member. In addition to the simple list above, unique business decisions will require further definitions.

Multiple Data Examination Methods

Analysis often begets analysis. This is because the analysis that supports one business decision is likely to spur a question regarding another decision that requires further analysis. For example, instead of simply concluding that we are no longer going to pursue health care projects because our hit rate is too low, ask whether the opportunity in health care warrants investments that will improve our hit rate. What is the opportunity available to us in health care? When we win work in health care, are we successful in earning good margins? What do we, as a firm, define as good margins?

Exhibit 1
**Simplified Example of Business Decisions
 Throughout the Project Life Cycle**

Project Life Cycle	Key Business Decisions
New Opportunity	<p>Should we pursue this project?</p> <ul style="list-style-type: none"> • Have we worked for this customer in the past? • If so, did we make money? Was the customer pleased?
Project Pursuit	<p>How much effort should we put into this project pursuit?</p> <ul style="list-style-type: none"> • Have we ever done a job like this in the past? Was the project a "success"? • Did we make money on the job?
Project Performance	<p>How are we performing on the job?</p> <ul style="list-style-type: none"> • Are we ahead of schedule and under budget? • How do our estimates for cost categories compare to actuals on the job? • What developmental needs are we identifying for our managers? Our craft workers? Our administrative and clerical staff?
Post-Project	<p>Should we pursue a job like that again?</p> <ul style="list-style-type: none"> • Did we experience margin gain or fade? • How does this compare to our past experiences on similar projects for similar customers?

Additionally, data has the funny quality of being capable of giving you the answer you want to find if you just look hard enough. Perhaps we are hastily concluding that we do not want to continue to pursue health care projects because the head of operations would rather invest in higher education or purchase new iPads for the field. Analyzing each business decision from different viewpoints within the business (e.g., business development, operations, administration) ensures that senior leaders are able to make well-informed and analyzed decisions.

Looking Forward

Over the next several issues of The FMI Quarterly, the authors will elaborate on industry trends and best practices in data collection:

- **Managing Operations Through Performance Tracking and Feedback** — Progressive contractors use real-time data analysis to spot icebergs on the horizon, course-correct and limit margin erosion. Don't let your project becoming the proverbial Titanic.
- **Data-Driven Business Development Strategy** — You are what you eat. Construction firms resemble the projects that they pursue, win and ultimately execute. What do you want your firm to look like in the mirror? Read the "nutrition facts" on the projects you consume.
- **Knowing Your Costs on Bid Day** — Buy low, sell high. In construction, it's buy low, execute lower. Limit exposure to "bad estimates" by understanding performance capabilities.
- **Capstone** — The Role of Data in Competitive Strategy **Q**

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JIM SCHUG

Chief Equipment Officer or Firefighter?

Maximize equipment value over the long term with strong maintenance programs

As the industry heads towards a steady recovery, many equipment-intensive companies are getting blindsided. The equipment they have been emotionally invested in is no longer as reliable as it once was. Several forces at work here combine to create a perfect storm of sorts for construction companies.

These forces include:

Too Lean: In order to preserve working capital and get lean, during the downturn, many companies minimized their investments in equipment repair and replacement.

Seeing Red: Many fleets are in the red zone as far as their useful lives are concerned. Five years of recession is a long time to postpone equipment investment and can result in an older average age of equipment. As a company's entire fleet reaches the red zone, repair costs exceed the value of the equipment, and unplanned breakdowns become the expectation of the field.

Detached: The equipment manager has not been part of the company's future planning sessions, doesn't hold a place at the table with company leadership, and isn't resourced effectively to run the shop and maintain data tracking and information gathering that many companies use to raise maintenance program standards.

War on Talent: The labor shortage widely affecting the construction industry is even worse for mechanics who, on average, get paid less than typical craft personnel wages. These technical experts are the first line of defense to keep equipment running and improve project productivity. While spread thin, they can become task-oriented and lose sight of their customer service orientation, creating a blame-laden culture.

Data: Most companies have not invested in a maintenance management system or implemented it well. They have little or no data, cost history or predictive analysis ability. In the future, smart companies will use data analysis to proactively manage equipment and its costs.

Proactive: Lack of planning at the superintendent/foreman levels leads to a very reactive shop and compounds the issues above. In such instances, emergency calls for equipment greatly outnumber the planned calls within the shop each week.

Silos Exacerbate the Problem: Conflicting Demands

Equipment management can be challenging. Each C-level executive wants equipment managed for a different purpose, often creating confusion for the equipment manager and staff (Exhibit 1). Equipment acquisition and management are both critical and cultural; and often a tone set by the founder (sometimes three generations back) continues to drive the approach.

Indeed, all of these demands are important. Managing these critical company assets, making effective decisions and driving business value require a strategic mindset. Without this mindset, companies will be hamstrung by constantly changing market conditions and high operational tempos. Equipment managers of the future must balance company needs and demands of the leadership team while holding the best interest of the company in mind. Many equipment managers get caught attempting to satisfy too many bosses without clarity about overall priorities.

Exhibit 1

Natural Company Silos Around Equipment Management

CEO	COO	CFO	Estimating	General Supervisor
<p><i>Highest asset value of owned equipment</i></p> <p><i>Lowest price for new purchases</i></p> <p><i>Influences buying decisions</i></p> <p><i>Sets overall tone for equipment management</i></p> <p><i>Secretly wants to be the equipment manager</i></p>	<p><i>Equipment that always works</i></p> <p><i>No downtime</i></p> <p><i>No maintenance time</i></p> <p><i>Five mechanics on every project</i></p>	<p><i>No budget surprises</i></p> <p><i>No overhead</i></p> <p><i>Clarity in equipment rates</i></p> <p><i>Depreciation</i></p>	<p><i>Flexible equipment rates on bid day</i></p> <p><i>Knowledge of the best equipment for the jobs we are bidding</i></p> <p><i>The ability to claim a lack of knowledge about best equipment for jobs we won</i></p>	<p><i>Equipment dispatched immediately</i></p> <p><i>Agreement that operators never damage equipment</i></p> <p><i>Trained operators with little or no time required for training</i></p> <p><i>The best equipment</i></p>

One of the equipment manager's most effective roles involves providing clarity and bringing the leadership team together to discuss company equipment priorities and optimize support to operations while minimizing long-term costs. These are often difficult, detail-laden conversations. Connecting the silos, finding common ground and resourcing become top priorities for the chief equipment advisor. Since every company needs a clear and distinct set of priorities to support the company strategy, one starting point for companies is to objectively assess areas like:

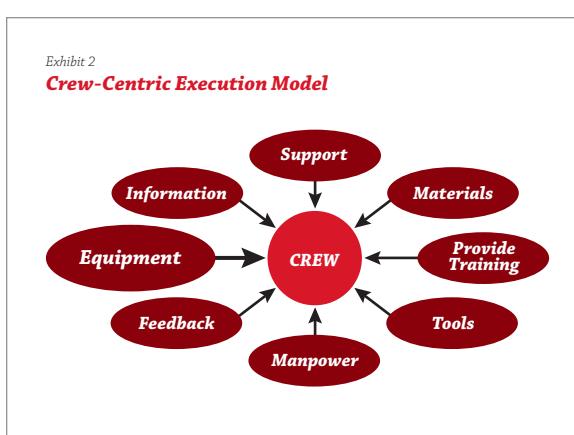
Fleet: Consider each piece of equipment, its utilization and its repair and salvage costs. Consider how these factors tie into company strategy. Would \$50,000 be better spent helping the company achieve improved profits when invested in a different asset?

Management systems and processes: Do we have a clear efficiency map? What data do we need to make the right decisions? How can we efficiently begin collecting that information? What is the amount of unplanned downtime we have each month? How can we reduce that and share this information?

People: Equipment management requires customer-service-oriented technicians who plan effectively and regularly adjust those plans. This is a high bar to hurdle. Having great motivation and team morale in the shop can help inspire extra effort when needed, retain strong players and attract new talent. Strong leadership and communication within the shop can make all the difference.

Relationships across the company: Are equipment acquisition, planning and maintenance natural parts of operations or just activities that

must be endured? Is the equipment manager regarded as a strategic partner and businessperson or simply a lead mechanic? How effectively does operations proactively plan and coordinate? (Exhibit 2)



Value-Added Roles

While every company has different equipment needs, the equipment manager can be one of its greatest assets by bringing the following benefits to the company:

Climb the ladder to improve maintenance posture. One of the most important roles of the equipment manager is to help the business climb the ladder from reactive to proactive maintenance posture. In a sense, the

maintenance management system becomes a machine of its own, set in motion and improved regularly. (Exhibit 3)

Know strategy and ensure company is connected. Shifting from public to private work or into more foundation or underpinning work, for example, will require a different fleet management.

Make the fleet more efficient through technology. The modern equipment fleet continues to evolve rapidly. Komatsu partnered with Rio Tinto to develop 120 autonomous dump trucks to operate a mine 24 hours a day for seven days a week continuously for the past two years. The technology is already developed. Equipment manufacturers have spent tremendous energy identifying needs of the workforce and tailoring the design and functionality to meet those industry needs (BIM integration, GPS, etc.). Operations must have an inside track on the opportunities and unique applications needed to make the fleet more efficient, given the rapid changes of the industry.

Integrate the asset management program with operations. A great asset management program relies heavily upon interaction with operations. We typically see companies with great operations take responsibility for the care

A great asset management program relies heavily upon interaction with operations.

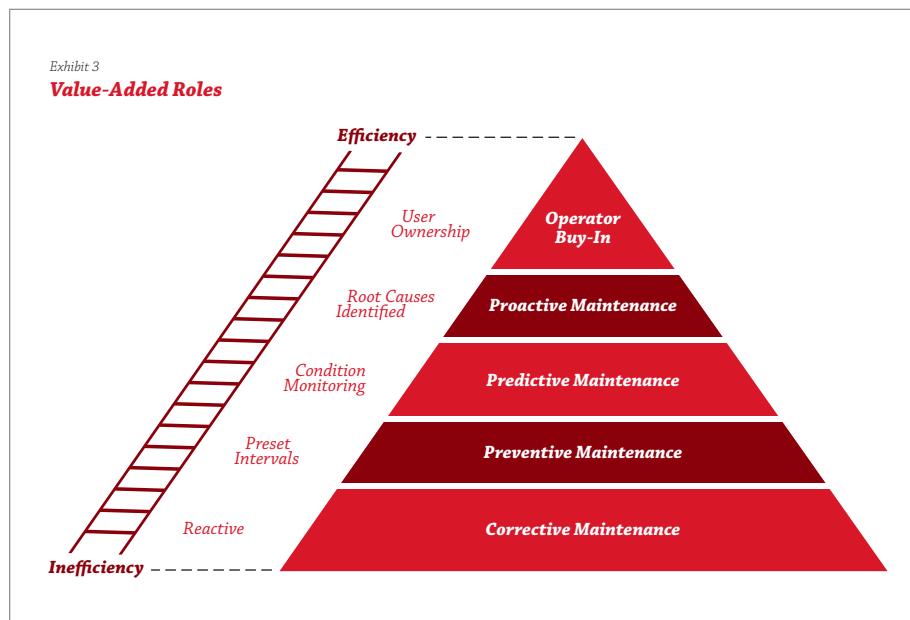


Exhibit 4 Common Operational Excellence Tools	
Operational Excellence Tool	Equipment Management Integration
Daily Huddle	Walk-around inspection, daily prioritization, diagnosis and feedback to operations
Two-week Look-ahead	Equipment needs prioritization and dispatch planning and verification
Resource Meeting	Maintenance scheduling, fleet balancing
Estimating	Effective rent/lease/purchase decisions and rental rate alignment Verify capital plan for equipment
Pre-job Planning	Best and highest use of mechanic staffing and equipment resourcing
Exit Planning	Demobilization planning, maintenance update and reallocation
Post-job Review	Lessons learned on equipment operations, mechanic coordination, discussion on performance data

and use of the equipment, plan better and be more efficient in their equipment needs. See Exhibit 4 for common tools that should be integrated with maintenance management.

Conclusion

As the market continues to improve, companies are beginning to remember the value of strong maintenance programs and of dedicated chief equipment managers for maximizing equipment value over the long term. This complex role requires an equipment expert and a strong company leader. A best-in-class equipment program's downstream results include improved safety, better morale and quality; as well as successful winning and execution of work. Companies can no longer stand by the cultural and emotional equipment decisions they made years ago. In this new market and economy, smart companies recognize the importance of their assets and invest properly. **Q**

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MIKE ROSE, PH.D.

Post-Recession Transformations

The future is bright for the E&C industry, but to be successful firms must recognize and navigate trends reshaping the industry.

Few industries felt the adverse impact of the Great Recession as much as the construction industry did. Overall, the recession that started in 2007 downsized the industry by 30%.¹ Of course the construction and engineering industries are not just *any* industries. Not only do they play a pivotal role in our economy but also today, as in the past, construction and engineering projects are a symbol of a nation's vitality and aspirations. In a very real sense, building projects embody the ethos of a culture.

So how is the industry doing in 2014? Many metrics and indexes evaluate the health of the industry and most point positive. The FMI forecast for construction put in place in 2013 was \$909.6 billion, down 6% from 2012; however, FMI expects growth to return to 7% in 2014 and reach \$977.1 billion.² Construction spending is outpacing GDP growth and is forecast to continue doing so. According to the Bureau of Labor Statistics (BLS), employment in the construction industry is 5,851,000, up from a low of 5,435,000 in January 2011. However, it is far from a peak of 7,476,000 in the spring of 2006.³

This article analyzes labor market pay data based on FMI Compensation's industry surveys for construction and engineering professionals to assess the health of the industries. By analyzing market pay trends, we find both industries

well on their way to recovery. However, job pay levels are changing and revealing underlying shifts in the industry.

Labor Market Pay Indexes

To assess the overall labor market, an index based on FMI pay surveys was created that averages all positions. Each position's base salary is given equal weighting (i.e., the index is a weighted average of the base salary across all positions). The base weighted average is then divided by a reference year average, for 2008 in this case, to produce an index.

Exhibit 1 shows the performance of the indexes for both the construction and engineering industries.

As shown in Exhibit 1, the pay index for professionals in the construction and engineering

industries has increased over 10% since 2008. Construction has seen a steady rise or recovery while engineering saw a dip in 2012 but shot back up in 2013.

To get a sense of the employment market for professionals, Appendix 1a shows the total number of survey incumbents in the construction professional survey. This provides a sense of the employment market and a rough proxy for professional employment. Total survey participants increased in 2009, dropped in 2010 and 2011, but recovered in 2012 before falling again in 2013. Overall, the number of participants is above 2008 levels, indicating that employment has improved for construction professionals.

Appendix 2a shows the total number of incumbents for the engineering/environmental survey and shows a similar trend. However, total survey participants are still fewer than in 2008, indicating that engineering professionals may have a bit further to go.

Construction Industry Pay Trends

A trend analysis across all jobs in the FMI Construction Professional Survey resulted in an easy-to-interpret graph.

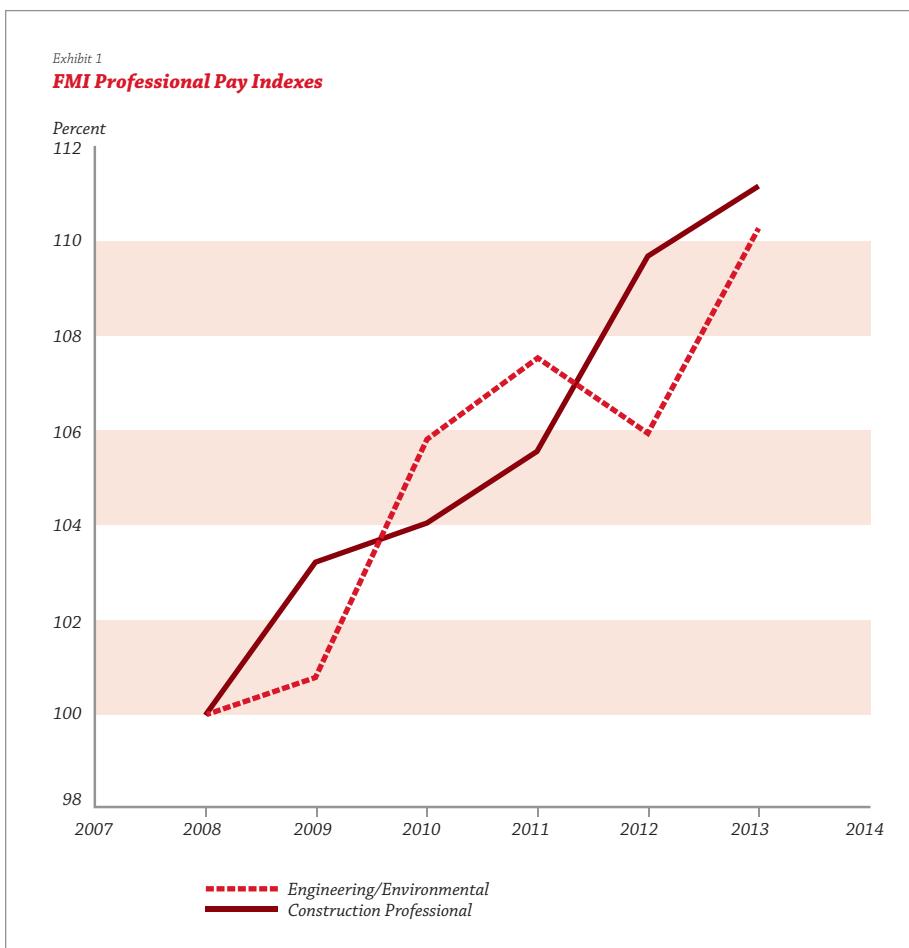
Exhibit 2 shows that, in general, pay levels have been increasing since 2008. Although employment levels may have receded, those with the most talent and who offer the most value have experienced pay increases. By observing where

FMI Surveys

FMI Compensation is the leader in comprehensive compensation and benefits surveys for the construction and engineering industries. FMI collects over 75,000 incumbent records, covering more than 280 jobs each year.

Methodology

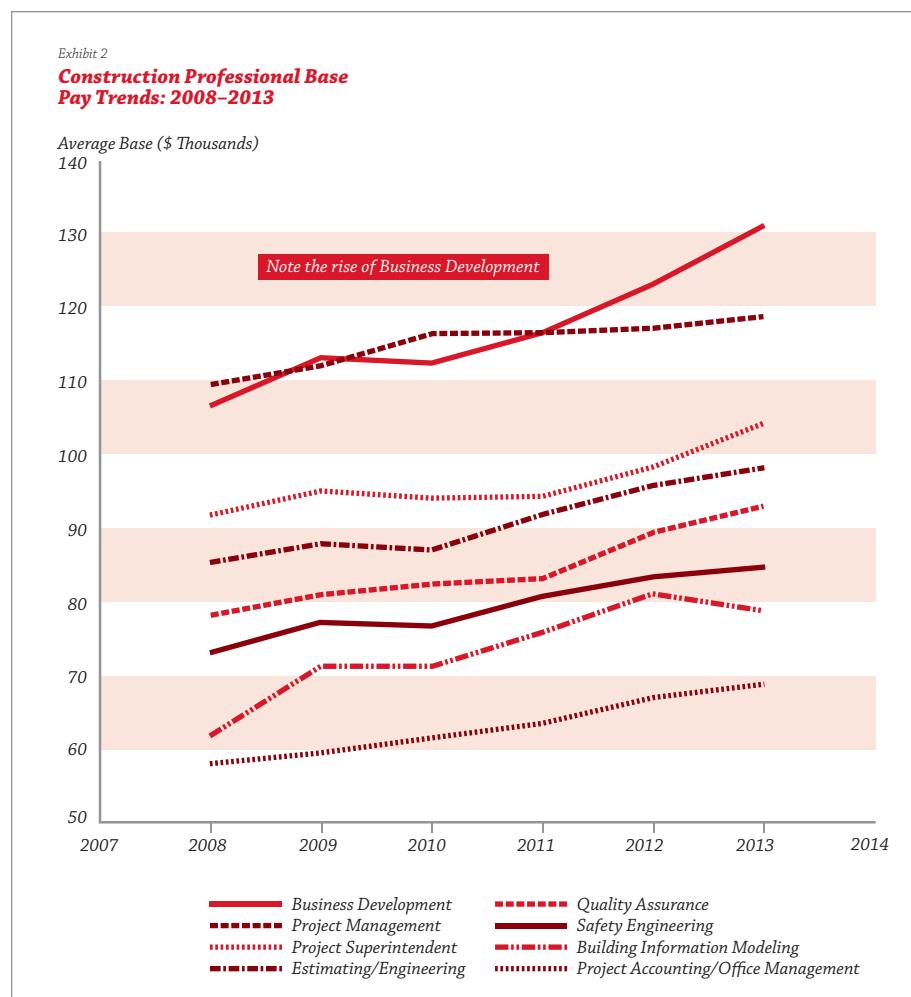
FMI does not rely on self-reported data but collects actual salary data from the larger organizations in their respective industries. All data are reported at the incumbent level and reviewed for accuracy. Averages are computed by job and level. Job family averages are computed based on level averages with each incumbent per level weighted one. In essence, we use a weighted average (number of incumbents per level) of level averages.



lines cross, we can discern significant trends among job families. For example, at the top of the graph, business development rose over project management and revealed the emphasis in organizations on new business acquisition. We can also discern sharp growth trends in certain jobs, including business development, project superintendents, estimating/engineering, safety, Business Information Modeling (BIM) and project accounting. The following table reveals the top-five jobs by pay growth since 2009.

What do these trends reveal? They show that with reduced revenue and profit margins, the industry is focusing on levers of growth and efficiency that were neglected in the past. First, the industry is turning to an emphasis on sales in an increasingly competitive environment. This goes beyond nurturing relationships and extends to a better understanding of owner needs and to providing solutions. A more complex sales process requires more highly skilled professionals who, in turn, require higher compensation.

Second, a focus on cost control through effective accounting, quality and accurate bidding is key to increasing margins. Finally, while the industry has lagged when it comes to technology adoption, it is embracing technology to



increase efficiency and reduce the likelihood of redo of work. Indeed, contractors are turning IT into a profit center through productivity tools and project tracking software.⁴ The significant rise in base pay (almost 30% since 2008) of BIM reflects this trend.

At the same time, those professions that in the past had seen the significant increases are experiencing slower growth.

Exhibit 4 shows the five construction jobs with the least pay growth and reveals that traditional areas, such as project management, project engineering and general foreman, are experiencing smaller increases. This is happening because the reduction in demand for construction projects has reduced the need for hiring in traditional positions, which in turn places downward pressure on wages. However, this is not a simple response to the business cycle; the construction industry is fundamentally changing. Indeed, a recent FMI research report points out the rise of low-bid procurement approaches such as reverse auction sites as well as diversification of delivery methods, including design-bid-build (D/B/B), design-build (D/B), construction manager (CM), construction manager at-risk (CM/GC) and integrated project delivery (IPD).⁵ Commoditization

Exhibit 3

Top-Five Construction Professional Jobs in Base Pay Growth

Position	Base Pct. Change Since '09
Business Development	15.7%
Project Accounting/Office Management	15.2%
Quality Assurance	15.0%
Estimating/Engineering	11.8%
Building Information Modeling	10.8%

Exhibit 4

Bottom-Five Construction Professional Jobs in Base Pay Growth

Position	Base Pct. Change Since '09
Project Controls	6.3%
Project Management	6.0%
Project/Field Engineering	3.6%
Equipment Manager	1.3%
General Foreman	1.1%

of construction is forcing the construction industry to revise go-to-market strategies and channels for new business as well as the talent pool.

The war for talent also drives professional pay rates. Appendix 1b shows the total number of incumbents by job. In addition, Appendix 1c shows the average number of incumbents by job per company. In other words, it shows the number of project managers, project superintendents, etc., in the average company in the survey. Thus, it provides a method of selectively identifying which jobs are in demand within the survey sample.

Overall, we note a drop and recovery reflecting the total trend, but some interesting features are clearly visible. Project managers and engineers have indeed fallen as expected; however, after an initial drop, the number of project superintendents has risen sharply since 2010. General foreman seems to defy the trend, having risen dramatically in incumbents per company. This is because companies emphasized lower-cost resources like superintendents and foremen before project managers. This rise is also reflected in the pay increase since 2011 for project superintendents. Thus, the demand for talent is driving wages up. Project/field engineer counts have also risen sharply since 2012; however, we do not see the wages increasing in Exhibit 2. Most likely, this recent trend has yet to hit survey wages but should start to drive wages next year (unless the available talent pool is still large). General foreman numbers show a sharp rise in 2010-2011 and subsequent leveling off. Similarly, Exhibit 2 shows a rise and then fall in the pay data, although this is far less dramatic.

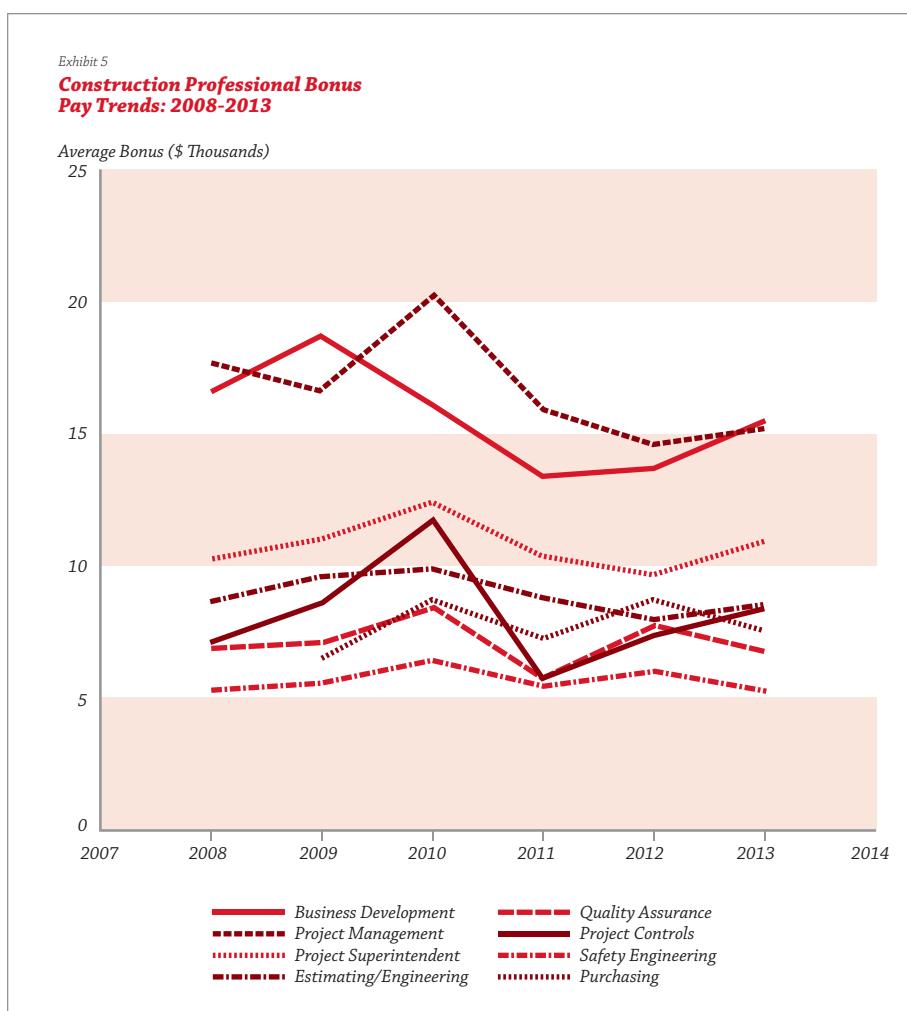
What about project managers? Both the total number and average number

per company have fallen and, not surprisingly, so have their wages, reflecting the aforementioned industry trends.

In addition to the base pay trends, we also analyzed the industry bonus pay trends.

While pay levels have increased overall, Exhibit 5 shows the precipitous fall in bonus levels as a percent of base salary since a high in 2010 and then the subsequent turn toward recovery for some professionals in 2013. According to FMI surveys, this occurred because 75% of construction companies pay discretionary bonuses.⁶ Typically, these plans involve a profit pool, and a shrinking pool means shrinking bonuses until the pool refills. So in 2010, while top talent received larger bonuses as a result of layoffs and hence fewer employees drinking from the pool, the pool ultimately shrank — leaving less for everybody. To prevent this, FMI Compensation recommends structured bonuses that pay out prescribed targets unless profits fall below a certain level.

Positions in project management, business development, project superintendent, project controls and estimating engineering have leveled off



or started increasing while the others continue to trend downward. Note the sharp increase in project controls bonuses since 2011. In this data set, we see the opposite trend in base for project management and project superintendent as a result of the need to retain key talent.

Exhibit 6 shows purchasing received the only bonus percent increase since 2009, again reflecting the emphasis on effective cost control through procurement. Quality assurance, safety engineering and project controls received the least decrease, reflecting aforementioned trends. Project superintendents appear about flat, reflecting the need to keep them whole as the demand for them continues (since 2011–12).

Exhibit 7 shows the greatest bonus reductions, with general foreman being hit the hardest. In fact, the general foreman position represents somewhat of a mystery. Exhibit 4 shows that the base change for this position was the lowest; and here we see the greatest bonus reduction, and yet the survey incumbent data (Appendix 1c) reveals that the average number per company is increasing significantly (actually more than 200% — more than any other position). How can this be? Shouldn't demand drive wages up? The answer is yes. And if we look closely at the trend charts, we see that base pay did go up through 2011, and likewise bonus pay went up significantly through 2010. We also see that incumbent growth was most pronounced from 2010–2011 and since has leveled off. Mystery solved.

What about BIM and project controls? Why do we see base increases along with bonus decreases for BIM and the opposite for project controls? It turns out

Exhibit 6
Top Bonus Increases Since 2009

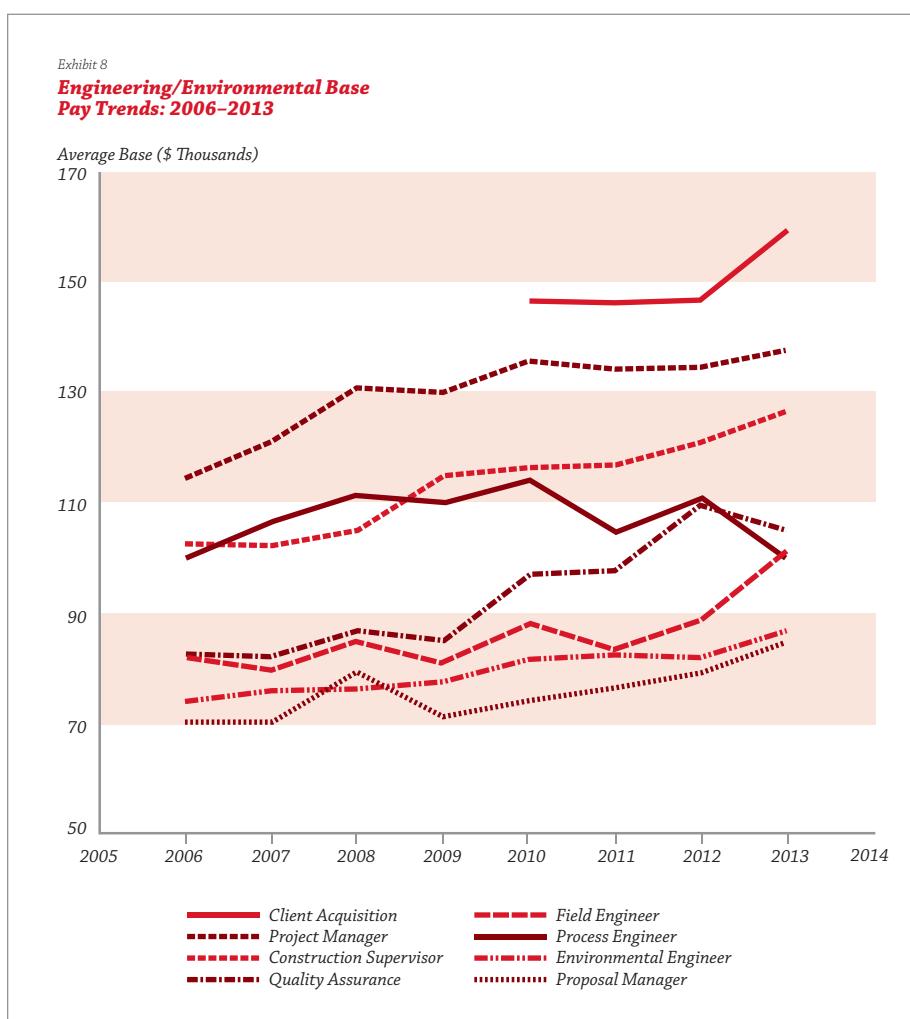
Position	Bonus Pct. Change Since '09
Purchasing	15.8%
Project Superintendent	-0.5%
Project Controls	-1.7%
Quality Assurance	-4.4%
Safety Engineering	-7.0%

Exhibit 7
Bottom Bonus Increases Since 2009

Position	Bonus Pct. Change Since '09
General Foreman	-48.6%
Equipment Manager	-32.7%
Scheduling	-30.0%
Building Information Modeling	-25.2%
Project/Field Engineering	-21.7%

that for both these positions, the total cash payout (base + bonus) increased modestly (5% for project controls and 8% for BIM). So what we are seeing for these jobs — as well as the others in the middle of the pack — is an adjustment of the mix of base to bonus which emphasizes base over bonus to suit the market while steadily increasing total cash compensation. This may reflect a trend on the part of new hires to see a pay package comprised of higher base salaries at the expense of bonuses in uncertain times. Simply put, they are not willing to put a significant portion of their compensation at risk.

Exhibit 8 shows the engineering base pay trend since 2006. As in the case of the construction industry, this figure shows the general rise of base pay. Note the sharp rise of client acquisition since 2010, when data for this position was first collected. This focus on sales is analogous to business development in construction. Exhibit 8 also shows the sharp rise in base pay for construction supervisor, project engineer and proposal manager positions. (Note that there are a few exceptions, such as process engineer.) In addition, project manager base pay is flat — similar to the construction industry as a whole. Exhibit 9 shows



the top positions by change in base pay since 2009. Field engineer leads the list, increasing more than 20%, followed by quality assurance and proposal manager.

Exhibit 10 shows the bottom-five positions by base salary percentage change since 2009. Note that purchaser, process engineer and design drafter have actually seen a reduction in base pay.

How can we explain these results? Well, as is the case of construction, quality is of growing importance to cost control. An environment of economic uncertainty and budgetary constraints is driving the engineering industry to fundamental change. First, an increase in at-risk work, as well as industry consolidation, is driving A/E firms to the E&C model.⁷ Hence, we see the emphasis on positions with specialized expertise such as field engineers, construction supervisors and project engineers. Field and project engineers are replacing general engineers because they are cheaper, more specialized and closer to the projects, and ensure smoother engineering to construction transitions.

Second, the clients themselves are changing. Indeed, according to a recent FMI publication, new delivery and financing vehicles create environments in which the client "might be a group of players from a P3, developer/builder, operator, financier or financial holding company, to some other entity or combination of entities."⁸ As a result, the marketing and sales processes are far more complex, with multiple stakeholders involved. Thus, in this challenging environment, we see increased base pay for client acquisition and proposal managers.

Third, the emphasis on smart buildings and environmentally friendly design places value on positions like environmental engineer. As in the construction

Exhibit 9

Top-Five Base Increases Since 2009

Position	Base Pct. Change Since '09
Field Engineer	24.1%
Quality Assurance	23.4%
Proposal Manager	19.3%
Environmental Engineer	11.5%
Project Engineer	10.7%

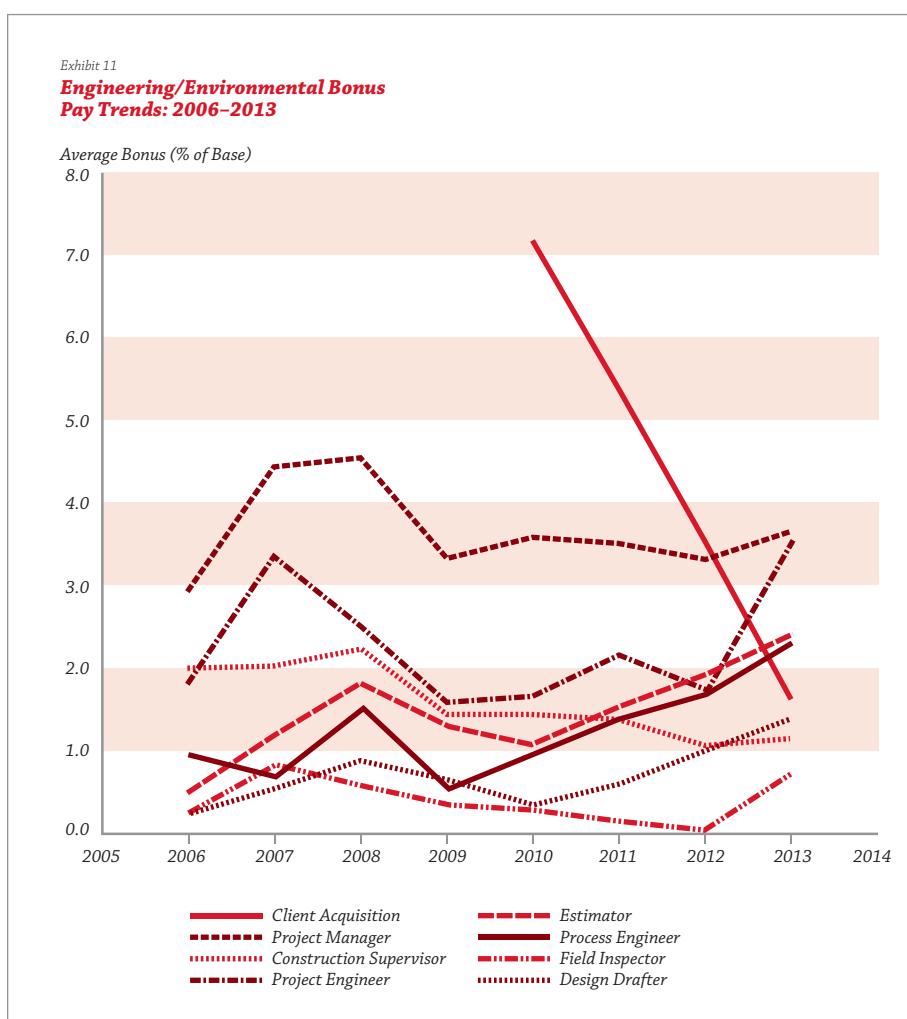
Exhibit 10

Bottom-Five Base Increases Since 2009

Position	Base Pct. Change Since '09
Design Drafter	-11.4%
Process Engineer	-9.2%
Purchaser	-5.7%
Estimator	0.7%
Project Controller	1.6%

industry, traditional roles (general engineer, project manager, estimator, etc.) see base pay and incumbent counts remain flat or even fall. Appendix 2c shows the sharp reduction in the number per company of general engineers within the sample set and the corresponding increase in field engineers, project engineers and project managers. These positions require a broader level of knowledge. Demand is increasing for them and they are becoming increasingly scarce, thus, their salaries are rising faster.

Exhibit 11 shows bonus pay trends for the engineering industry. In general, bonuses in the engineering industry are smaller than in construction and, unlike the construction industry, have remained rather flat since 2009 (although somewhat below 2008). The most salient feature is the precipitous drop in client acquisition bonuses. This occurred because client acquisition professionals earn bonuses based on sales, and sales were not good. As in the construction industry, project managers receive the largest bonuses (as a percentage of base salary), although their bonuses have remained flat since 2009. Bonuses in the engineering industry took a sharp hit but appear to be recovering. Note the



sharp rise in process engineer and project engineer bonuses — both of which exceed prerecession levels. Exhibit 12 highlights the top increases with some even reaching above 100%. Exhibit 13 shows the largest decreases.

As you can see from Exhibit 13, the variation in bonus change is quite large and far exceeds similar variations in the construction industry as a whole. On the high end these jobs have experienced a bounce back to levels equaling or even somewhat exceeding their prerecession level peaks (2007–2008). Field engineers saw bonus reductions upon the heels of base increases, but their total cash is up 23% — a significant change in mix toward base. Estimator base salaries remained flat while process engineers saw a decline in base. These two positions may be attempting to make up for base erosion with incentives. Indeed, their total cash reward did remain flat or only went down slightly.

Field inspector and project engineers have seen both base and bonus increases, underlining their value to organizations in quality control and specialized knowledge. For positions with the largest bonus reductions, all of their total cash amounts went up, so this again, as in construction, appears to be a case of increasing salaries at the expense of bonuses in uncertain times. Basically, new hires are seeking the assurance of higher base salaries regardless of promises around an uncertain bonus. Process engineers saw the second-largest base reductions, yet their bonuses went up the most (more than 300%). This occurred because these professionals have seen large reductions in incumbent numbers, softening the base numbers; but large bonuses act as a retention mechanism for highly valued employees.

Exhibit 12
Top-Five Bonus Increases

Position	Bonus Pct. Change Since '09
Process Engineer	307.8%
Project Engineer	148.8%
Field Inspector	126.0%
Design Drafter	95.0%
Estimator	85.5%

Exhibit 13
Bottom-Five Bonus Increases

Position	Bonus Pct. Change Since '09
Field Engineer	-62.0%
Architect	-58.1%
Scientist	-35.5%
Environmental Engineer	-27.1%
Contract Administrator	-24.4%

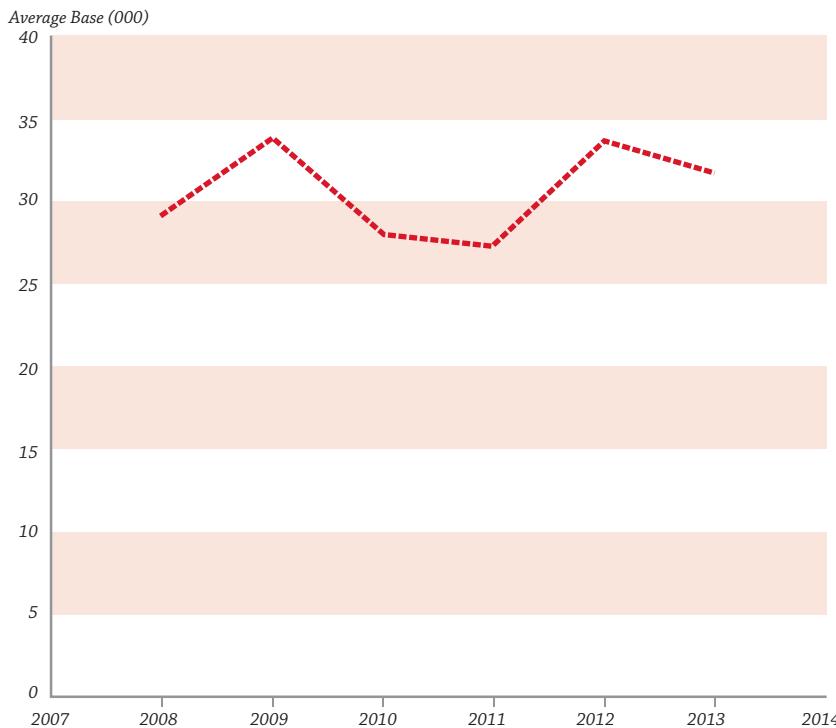
Conclusion: The Future Is Bright

At the job level, FMI Construction Professional and Engineering/Environmental Survey data provides an excellent vehicle for surgically dissecting trends within each industry. At the high level, indexes created by a weighted average of pay across all jobs indicate that both industries are well on their way to recovery, having increased more than 10% since 2008. These trends should continue moving forward at least for the next few years; hence, the future is bright.

One salient trend seen across both industries is the rise in importance of sales. Although bonuses for business development and client acquisition may be down in difficult times, the rise in base pay indicates their value in driving future business. The marketing and sales process is growing increasingly complex, as reflected in base pay increases for these jobs (construction — business development, engineering — client acquisition and proposal manager). Another common theme is the emphasis on roles with more specialized knowledge such as technology or environmental engineering.

We can identify hiring trends by examining the average number of jobs per company. In the construction industry, we see the number of foremen and superintendents increasing while more expensive resources like project managers remain flat. Similarly, in the engineering industry we see an increase in field

Appendix 1a
Construction Professional Survey
Total Incumbents



and process engineers and a reduction in the number of general engineers.

In summary, the future is bright for the construction and engineering industries, but to be successful, firms must recognize and navigate important trends that are fundamentally reshaping the industry. **Q**

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¹ Kilgore, K.C. and Warner, P.E., "The Changing nature of Business in the Construction Industry," FMI, 2012.

² Warner, P.E., "Construction Forecast," in U.S. Markets Construction Overview 2014, FMI, 2013.

³ U.S. Census Bureau News, U.S. Department of Commerce (<http://www.census.gov/constructionspending>). "Feeble Hiring in Construction is a Stubborn Drag on Growth," New York Times, 12/13/13 (http://www.nytimes.com/2013/12/14/business/economy/feeble-construction-hiring-is-a-stubborn-drag-on-growth.html?_r=0).

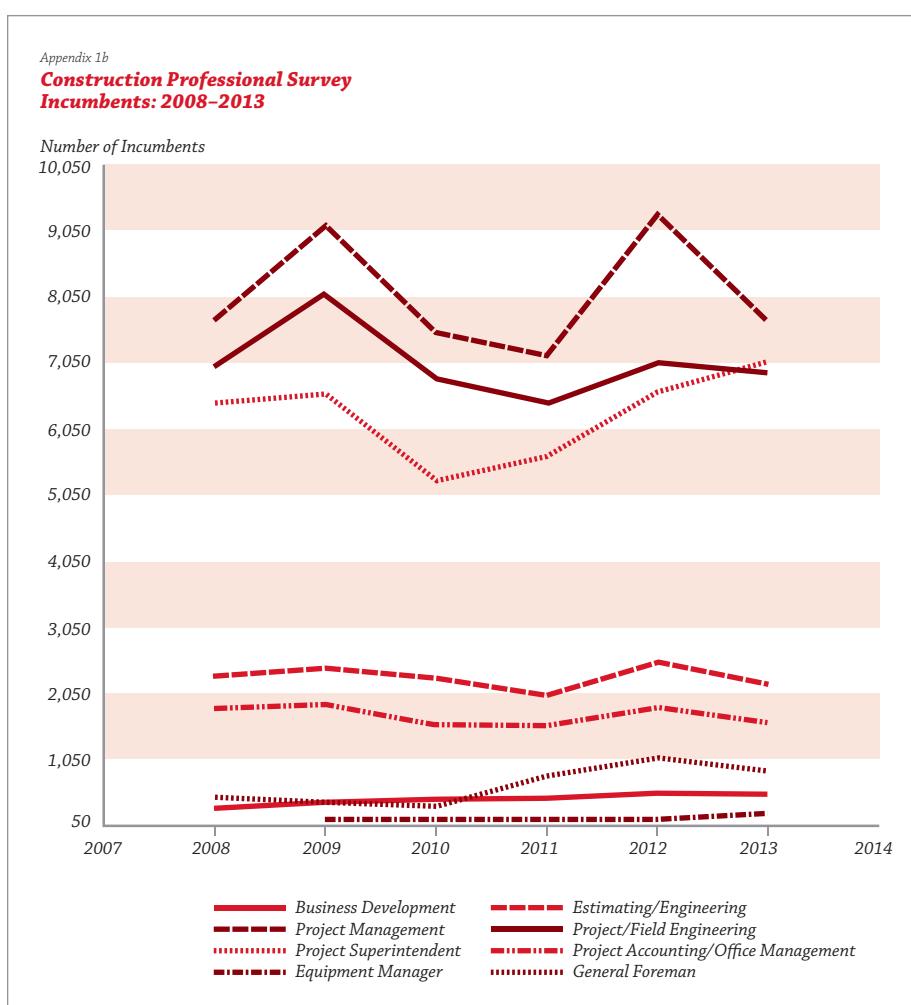
⁴ Ibid. 1, p. 10.

⁵ Ibid. 1, p. 3.

⁶ Knesl, R., DiFonzo, S., Warner, P.E., "Incentive Compensation Effectiveness Survey," FMI, 2013.

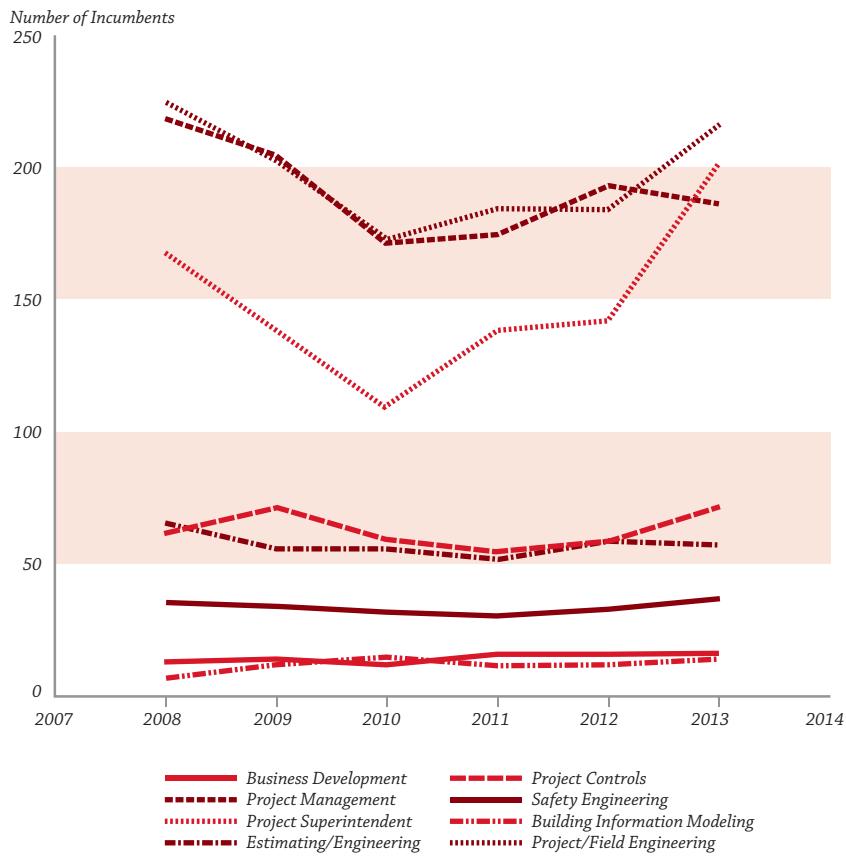
⁷ S. J. Isaacs, "Architects and Engineers" in US Construction Markets Overview 2014, FMI 2013.

⁸ Ibid. 7, p. 10.

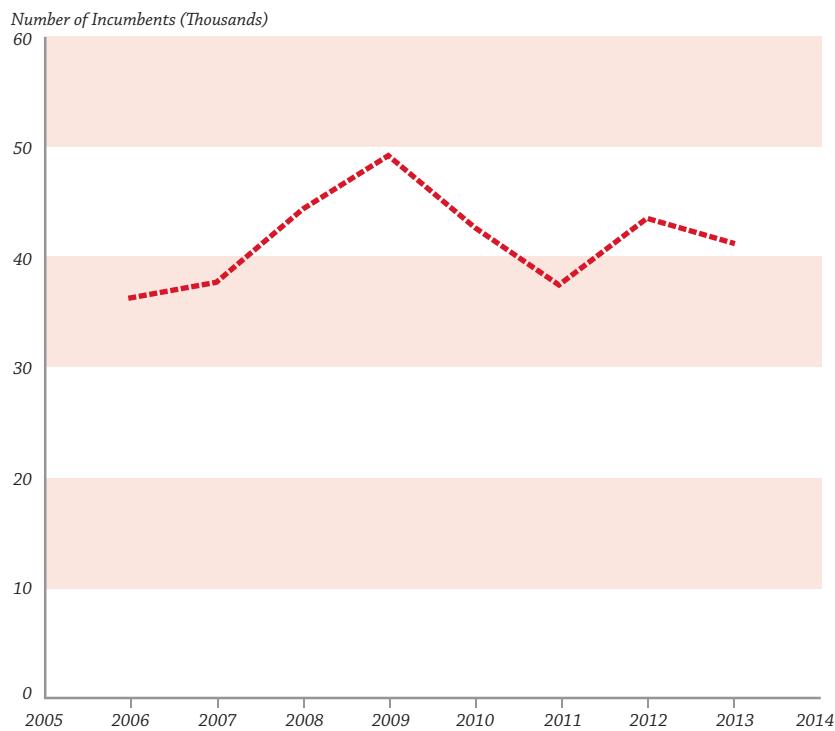


Appendix 1c

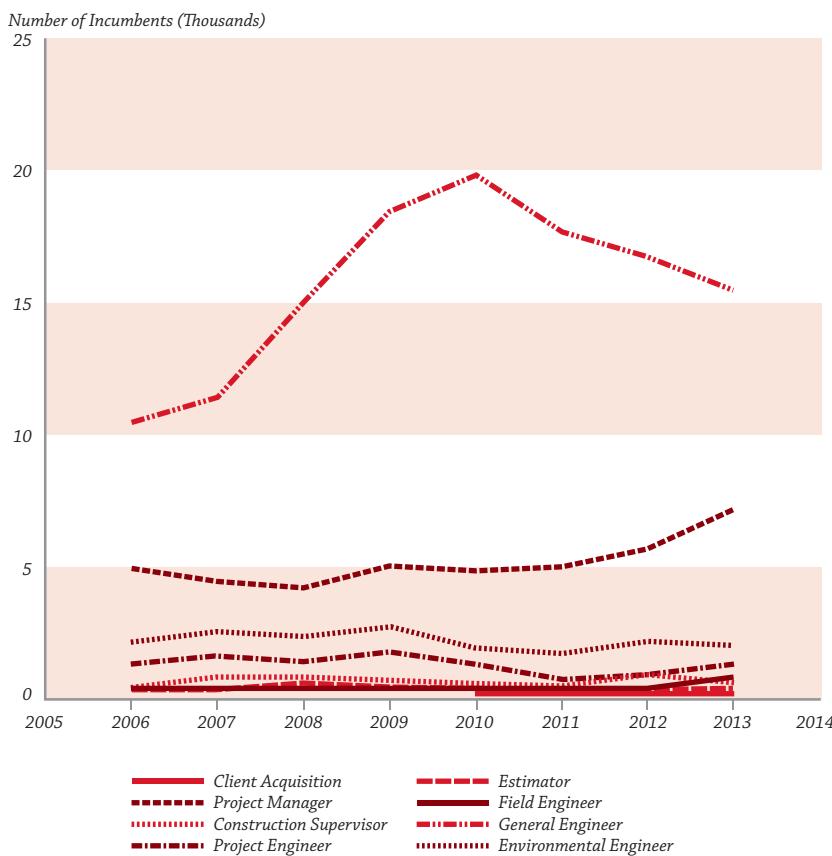
Construction Professional Survey
Incumbents Per Company: 2008–2013



Appendix 2a

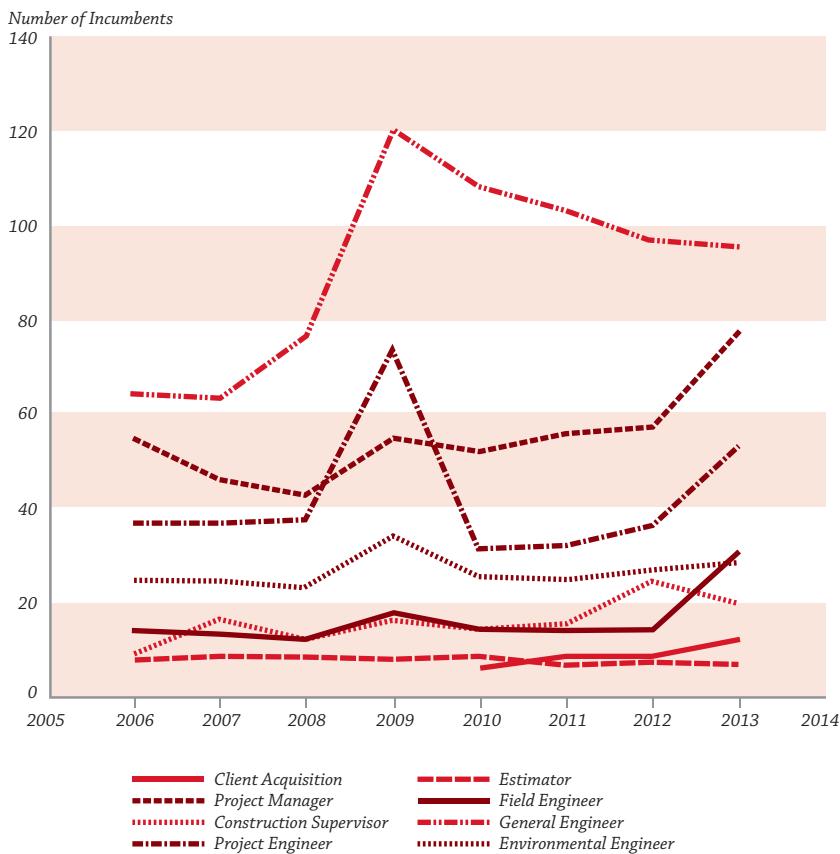
Engineering/Environmental Survey
Total Incumbents

Appendix 2b
Engineering/Environmental Survey
Incumbents: 2006–2013



Appendix 2c

Engineering/Environmental Survey Incumbents per Company: 2006-2013



***Take precautions
when selecting
subcontractors
and suppliers for
curtain wall projects
to insulate your
business from
disruptions and
implications.***

MICHAEL PACETTI
AND MIKE MORRIS

Managing the Risks of Curtain Walls



valuating curtain wall risks has taken on a new level of importance for general contractors. The production process of these building envelopes has become increasingly complex and specialized, resulting in the potential for supply chain disruptions. Further, superior curtain wall subcontractors are difficult to find, as global economics and financial stress have greatly impacted this niche industry. In fact, three of the top-15 curtain wall firms have failed during the past two years, according to information compiled by the U.S. Glass Association.

General contractors should be diligent about managing the risks associated with curtain walls — specifically, their evolving composition, because of advances in technology and international competition, as well as the validity of the subcontractors enlisted to complete the work. Not doing so may result in large losses.

Zurich's claims experience from its subcontractor default insurance program demonstrates that curtain wall risk is pervasive across geography, general contractors and curtain wall subcontractors. However, the value of subcontractor default claims for curtain wall projects is three times the average

value of similar claims for all other trades, according to Zurich's Subguard database that tracks all defaults. That same data also indicates that nearly half of the 11-largest claims during recent years stemmed from default on glass or curtain wall projects.

Driving these claims, in part, has been the evolution of building design and the changing role of curtain wall companies over the last 40 years. They have become more like small general contractors themselves, farming out the

increasingly complex production process to specialized vendors to accommodate modern architecture's departure from traditional building shapes, sizes and height.

The same advances in technology that have allowed for innovative building design have also allowed for improvements in curtain walls. New software allows project participants to visualize, coordinate and speed the delivery of curtain wall components. Advances in materials science have yielded composites and finishes offering greater strength and durability.

All of these advances can complicate risk assessment though. They necessitate cutting-edge manufacturing plants, sophisticated

equipment and technical personnel, possibly creating hefty overhead costs for the industry's specialized vendors or suppliers that are already financially strained because of the reduced construction volume during the recession.

Recession aside, many curtain wall subcontractors still struggle to profit. The smallest of the top 50 curtain wall firms have sales of \$5 million per year, and only one-third have annual sales in the \$10 million to \$20 million range, according to the National Glass Association's "Top 50 Glaziers Survey" from 2013. In addition, sales volume for the most recent year is lower than it was prior to the 2007–2008 recession.

The survey also highlighted improving sales for the majority of firms, but increased profit margins for a select few. It also indicated that many firms are completing projects that were priced and sold during 2007–2008, further stressing their financial viability.

As a result, general contractors struggle to find viable curtain wall companies with access to quality vendors that have the appropriate technical skills and

General contractors struggle to find viable curtain wall companies with access to quality vendors that have the appropriate technical skills and resources to complete their contracts.

resources to complete their contracts. When a curtain wall contractor defaults on a large project, it can be very difficult to readily replace that contractor and all the related specialized vendors. Not only can it be difficult to find a financially viable curtain wall subcontractor with adequate resources, but also it might be almost impossible to find subcontractors with vendors that are all local to the project itself, as curtain wall production has become increasingly international in scope.

China, in particular, is a major supplier of curtain wall components. As the largest producer of float glass, China produces nearly one-third of the world's major curtain wall components, including glass, aluminum extrusions and composite panels.¹ China has established subsidiaries in the U.S., which have operations that fabricate components in China, and may ship the components to Mexico for assembly, followed by delivery to the U.S. for installation.

Several risks must be evaluated when relying on foreign suppliers:

- Products that do not conform to U.S. or Canadian specifications
- Little or no quality testing of the actual product
- Nontransparency, which enables a domestic subcontractor to use foreign materials
- Limited possibility of financial recovery from a foreign corporation
- No warranty recourse

Should a curtain wall subcontractor run into one of these problems with an international vendor or supplier, it could find itself in a precarious situation — unable to fulfill a project and in default. Even if vendors or suppliers are not international, the multifaceted nature of curtain wall production helps to explain the expense behind these increasing subcontractor default claims, as previously discussed.

For example, compare a curtain wall subcontractor default on a large project with a structural concrete subcontractor default for that same project. The concrete subcontractor's scope of work typically includes labor and materials that are readily available from multiple alternate sources within the project city and almost certainly the region, making a default less severe.

Curtain wall subcontractors and vendors, on the other hand, may use proprietary systems or make project-specific components overseas.

When a curtain wall contractor defaults on a large project, it can be very difficult to readily replace that contractor and all the related specialized vendors.

Specialized products like triple-glazed bombproof glass units may come from a sole-source provider. The complex production of curtain walls is unavoidable, and engaging curtain wall subcontractors with international vendors isn't entirely unnecessary. General contractors just need to carefully account for these risks and actively look for early warning signs of default, especially if the second-tier specialized entities are unknown.

Subcontractor Pre-Qualification

In addition to the standard pre-qualification procedures for all subcontractors, additional actions are prudent when evaluating curtain wall subcontractors:

- Use “best value,” not price, to award work.
- Determine whether the subcontractor has recently expanded operations locally or elsewhere.
- Determine whether the subcontractor has purchased another struggling company or has been acquired by another company.
- Determine if the parent company has the necessary capacity and willingness to support a local qualified team who would manage the project.
- Evaluate staff, capacity, proximity, responsiveness, engineering and BIM capabilities, references and experience.
- Perform a complete examination of contract requirements, and visit both the factory and a completed project to address one-of-a-kind systems.
- Identify significant secondary or tertiary vendors or suppliers prior to starting the project, and evaluate their performance capabilities; update the evaluation as the project progresses.
- Determine the percentage of the subcontract to be manufactured or performed with the primary curtain wall subcontractor's own forces.
- Obtain lien waivers for all second-tier entities.
- Include language in the contract to provide relief to the general contractor for tariffs, duties or other trade disputes impacting foreign-sourced materials.
- Determine where and how all materials will be sourced and fabricated.
- Account for increased property risk, such as damage to installed work or stored materials due to weather damage, theft, vandalism or other, arising from incomplete curtain wall installation.

The complex production of curtain walls is unavoidable, and engaging curtain wall subcontractors with international vendors isn't entirely unnecessary.

If foreign entities are involved, additional precautions can include:

- Ensure the owner accepts foreign products as qualification to GMP.
- Make a formal substitution request to owner and architect replacing original specifications with replacement product if necessary.
- Obtain corporate guarantee from subcontractor's parent company, irrevocable LOC, increase retention and/or delay early retention release.
- Include strict performance criteria and dates for submittals, mock-ups and delivery with Liquidated Damages.
- Perform on-site quality reviews of fabrication facility by owner and their consultant; a general contractor representative must attend and monitor progress and testing.
- Require the owner to hire a quality assurance monitor at the fabrication plant and provide regular reports.
- Require shipping and logistics plans from subcontractor, with weekly updates on status from customs broker, shipping and transit companies.
- Craft a contract allowance sufficient to monitor quality and production.

Taking such precautions when selecting subcontractors and their suppliers for curtain wall projects can help to insulate your business from the many possible supply chain disruptions and resulting financial and reputational implications stemming from this complex process. 

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¹ Usha Hale, "Through China's Looking Glass: Subsidies to China's Glass Industry from 2004-08", Economic Policy Institute, *EPI Briefing Paper* #242, October 8, 2009.