

# **Quarterly** 2011 ISSUE 3

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# This Quarter: Crawling to Recovery

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## Dear Reader:

The rules of financial physics being what they are, it seems that catastrophes occur suddenly while recoveries are achieved with the speed of glacial movements. So it is with the current crawl toward recovery. Yet recover we will and recovering we are. Most savvy leaders are doing much more than handwringing during this malaise. Strategy, action and persistence are usually the stuff of success during any market shifts. We hope you will find ideas that you can apply to your own organization within this volume of *FMI Quarterly*.

Feature-length articles in this issue include Steve Isaacs' and Karen Newcombe's second installment in their strategy series, this portion dealing with *Research and Idea Generation*. Two articles deal with China and its potential impact on economic recovery. First, Sabine Hoover and Stephen Boughton contemplate possibilities in *The New China: Threat or Opportunity?* Second, old China hand Mike Sheppard, a former member of the FMI team, focuses his far eastern experience with *The Chinese Butterfly Effect*. Greg Schoppman deals with turnovers, hand-offs, downloads, dumps and other misnomers of pre-construction planning in his must-read article, *Dictation or Collaboration?*

For their second feature in this issue, Steve Isaacs and Karen Newcombe bring a profoundly important reminder to us in *Firmwide Quality: Pursuing the Highest Standards*. Former FMI colleague Christian Burger probes the future in his article, *Information Systems: The Next Seven Years*. Doug Mitchell, our third industry contributor in this issue, shares valuable

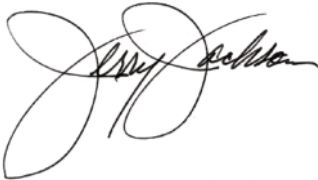
information for those pursuing federal contracts in *Ten Thousand Shades of Gray: Federal Workforce Regulations*.

Cynthia Paul, veteran FMI director and frequent contributor to these pages, brings us her views on getting positioned to win work in *Primitive Weapons Won't Feed a Village*. Ashley Sisk gives us an update on *Training Trends Today*.

Billy Miller and Jon Tate of our sponsoring partner, Zurich, provide insight and advice in their interview with *FMI Quarterly* editor Kelley Chisholm on issues to consider when the recovery is under way. Lou Marines continues his thought-provoking Perspectives series with *After the Storm: Planning for a Better Future*.

For most of our readers, ideas are not in short supply. We hope that our feature-length and shorter articles will help in your idea selection. The ingredients of success in profitably growing your own organization are not only having the right ideas but also having the drive to both deploy and sustain the right actions. If you want to explore whether FMI can assist you beyond the words in these pages, please give us a call.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Jackson", written in a cursive style with large loops.

Jerry Jackson

*FMI Quarterly* Publisher and Senior Editor

# Departments

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## TRAINING

### Training Trends Today

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Our global economy is stepping its way out of a recession. Consumer confidence is improving, credit markets are not nearly as restrained as they were in 2009, and the job market is beginning to rebound. During the recession, companies trimmed budgets, reduced overhead spending and “rightsized” to a much leaner and meaner version of themselves. It is almost as if some construction firms completely rebuilt their organizations to deal with the economic pressures of the recession rather than ensuring their businesses could withstand the upturn that we are now experiencing.

While business adjustments certainly need to be made in up or down cycles, the basic principles of good business apply regardless of the economic climate. Just as a well-built home with minor adjustments will heat in the winter as well as it cools in the summer, a strategically planned talent development program will work equally well in up and down markets. As we are slowly seeing the recession lift and realizing that a large portion our operating budgets are somehow related to people, we are increasingly aware that people development has and will play a critical role in the future success of our businesses.

“Employees need to get smarter, faster,” according to Forrester Research. Talent development can no longer be put on the back burner. In fact, new studies are showing that our traditional approach to training needs to be revamped completely. What does training and development look like for this new economy? Emerging trends show that economic demands on learning will continue; a multigenerational workforce is the norm; business alignment is critical to survival; and social media will become an essential part of learning. These changes, or rather new demands, in the business environment have made it necessary to employ solid leader development strategies moving forward.

Workers today expect more now than ever before, namely dynamic technology that includes social networking, flexibility of working remotely or from multiple locations, challenging and collaborative work, choices in career paths, attractive benefits and a good salary, diversity in the workforce, commitment to social responsibility and volunteerism, and work-life balance.

According to Deloitte's Talent Edge 2020<sup>1</sup>, executives say that two of their most pressing concerns today are competing for talent globally and in emerging markets (41%) and developing leaders and succession planning (38%). Many other companies also appear to be returning to talent development basics as they pull out of the recession with a renewed interest in retaining employees at all levels (37%), managing and delivering training programs (35%), and creating career paths and job opportunities (34%). It is tempting to revert to strategies that served us well prior to the economic downturn. However, as proven by Deloitte's survey, many companies have recognized that the forces shaping future training and development needs, such as globalization and an aging workforce, continued to accelerate during the downturn and now require new talent strategies to position their companies for success moving forward.

This information gives us ammunition to fire some trends for how best-of-class construction companies will manage the talent development function of their businesses moving forward.

**1.** Talent development must receive the same amount of thought leadership as any other part of the business. In fact, high-performing organizations will ensure their talent goals are aligned closely to business objectives. Talent development processes must be relevant to the current economic climate and specific organizational challenges so that leaders are identified now and developed for the future. Furthermore, organizations must balance current demands with long-term strategies to ensure that the right people are in the right place at the right time when their market fully recovers. In particular, organizations must seriously consider utilizing or increasing their use of technology and social media moving forward as a recruitment and management tool. For example, associations with limited marketing budgets are already utilizing Facebook as a free resource to reach their membership base and promote upcoming events.

**2.** Companies must focus on identifying and developing future leaders now and do all they can to develop and retain them. However, developing people at the right time is also vital to maximize employee engagement. Telling future leaders too early in their career that they have what it takes to reach a project-executive level may lead to frustration if the progression occurs much slower than expected. On the other hand, employees who are not identified and informed early enough may become disengaged and leave to work at a competing organization.

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**Organizations must seriously consider utilizing or increasing their use of technology and social media moving forward as a recruitment and management tool.**

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3. Businesses should use the current economic environment as a learning platform to innovate with future leaders and their development plans. For example, the recession has stripped a number of organizations to a much leaner state, leaving many skill gaps across the organization. Rather than view this as a threat, senior leaders can view this as an opportunity for future

leaders to learn the other areas of the business. This provides career movement and experience that are extremely valuable to leader development.

4. The aging workforce dilemma is still a reality. The pool for skilled workers has simply shrunk. Demographics make managing employees different. Look at the facts: 78 million baby boomers will be retiring; 46 million Generation Xers will not be able to replace all of the retirees; 30 million Millennials have already entered the workforce and 46 million more are coming. Pair with that the fact that boomers are tired and overworked, but their 401K funds are not healthy enough for many to retire. It is vital in this economy to maximize and retain older employees' talents while attracting young employees to fill

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**It is vital in this economy to maximize and retain older employees' talents while attracting young employees to fill succession-planning pipelines for leadership positions.**

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succession-planning pipelines for leadership positions. Economic changes as well as an increasingly multicultural and multigenerational workforce, demand that companies rethink how they manage their talent. In order to create a more level playing field, organizations' performance management programs must incorporate effective goal setting, regular performance reviews and ongoing feedback to provide maximum value.

5. When measuring talent, although proven performance is generally the crucible, firms should not forget about potential. While it is necessary to develop your high potentials, do not forget your solid performers. The rest of your workforce does have significant potential; yet much of it will remain unfulfilled and largely untapped if development plans are not built around individuals' styles, personalities and fundamental belief in their future development.

Effective leadership development leads to increased retention and business performance. Organizations must get it right. The danger lies in the cost of getting the process wrong, especially when your business has already made significant reductions to overhead. At best, companies will experience painful voluntary turnover on top of an already lean business. At worst, organizational performance will be affected and the bottom line will suffer.



All of these trends will play a role in talent management in the near term. Today's business environment is a volatile brew. Developing skills that enable flexibility and responsiveness in times of ambiguity will ensure organizational success in the coming years. ■

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<sup>1</sup> This report may be accessed at: [http://www.deloitte.com/view/en\\_US/us/Services/additional-services/talent-human-capital-hr/Talent-Library/talent-edge-2020/index.htm](http://www.deloitte.com/view/en_US/us/Services/additional-services/talent-human-capital-hr/Talent-Library/talent-edge-2020/index.htm)

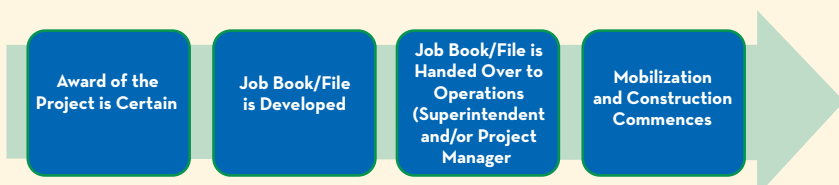
## BUSINESS DEVELOPMENT

### Dictation or Collaboration?

The transition of awarded projects from estimating/sales to operations is called many things. The Turnover. The Hand-Off. The Dump. The Download. In most cases, the transfer of information resembles a one-sided dictation from an estimator to a project or field manager. “Here are the plans, here is the budget, here are your purchase orders. Any questions?” Setting the land-speed record for meetings appears more of a priority than properly equipping the project team at the start. Organizations are then forced to rely on the competence of their field assets to deduce the right way to build and, in some cases, muddle through the start, middle and ending of a project. Exhibit 1 is a depiction of the pre-construction activities that occur in many organizations.

It would be wrong to refer to the development of a job file as “planning.” Planning assumes some collaborative effort and discussion, not just the mere action of handing materials over to another group within the firm. However, as with any type of planning, time is required. Time that is in short supply on project schedules that are equally as short. Time that is being gobbled by demanding customers. In many cases, the path of least resistance is to simply mobilize and “figure it out on the fly.” Contractors will stumble over themselves to put bodies on a project to show action. Unfortunately, action does not always equal productivity. Consider the following list of reflective questions regarding pre-construction planning:

Exhibit 1  
**“Normal” Pre-construction Activities Transitioning  
 From Estimating to Operations**



- Does the organization put a time limit on the planning session (i.e., “No longer than an hour ...”)?
- Does the level of conversation appear one-sided, particularly on the part of the estimator or salesperson?
- Is the planning effort abandoned if “the customer needs us out there tomorrow”?
- Does the planning fail to occur because it is unknown who will actually be the project manager and superintendent on said project?

Answering affirmatively to any of the questions above may be a sign that the pre-construction planning efforts of the organization are flawed and misguided. Forsaking planning or simply diminishing the importance of planning simply sets project teams up for failure.

### LESSONS FROM SEAL TEAM SIX

As information of Osama bin Laden’s demise reached the mainstream media, many details of the now famous and mysterious SEAL Team Six surfaced. The story of the operators of this legendary fighting force include its grueling selection process, rigorous training regimen and the countless stories of the team’s bravery in combat, seemingly stripped from the silver screen. While most of the headlines featured accounts of that fateful evening in Abbottabad, Pakistan, few will remember the eight to nine months leading up to the event. Supported by mountains of intelligence, interviews, floor plans and satellite imagery, a game plan was developed. Not only did the intelligence agencies provide critical data, but also the same operators of the SEAL Unit that would ultimately execute the plan rehearsed various schemes on entry to the compound, dealing with insurgents, extradition of the target and securing critical intelligence. In the end, the operation lasted a little more than 40 minutes. Interestingly enough, the level of planning required for this successful mission lasted a staggering eight months.

During an interview after the operation, President Obama discussed how the plan developed. He noted the various means by which the target could have been subdued, ranging from a missile strike to the chosen methodology of the SEAL Team. President Obama went on to say the SEAL Team leaders and the intelligence community would develop a collaborative plan and present it to him and his Cabinet in the Situation Room. Of all the facts that surfaced after this operation, one of the most intriguing points made was the number of times the task force would develop a plan, present it and be told to re-evaluate and come back with a better strategy. As taxing as this

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**Forsaking planning or simply diminishing the importance of planning simply sets project teams up for failure.**

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might have seemed, “going back to the drawing board” might have been the difference between success and failure in this monumental mission.

It is difficult to compare the trials and tribulations of a construction project to that of a military operation of historic proportions. However, it is important to consider the implications if the planning in the aforementioned operation had taken a different course. For instance, what if the American intelligence agencies had put together a “data book” with maps, diagrams, dossiers, etc., and simply handed off their interpretation to the SEAL Team? What if the SEAL Team was given this “data book” on May 1, 2011, the day before the raid? What if the plans had called for a single-story building and not the multistory structure it actually encountered? Lastly, what if the “data book” had an address of 1313 Mockingbird Lane? One might speculate the outcome might have had different results. The SEAL Team has demonstrated its extraordinary capabilities and ability to improvise, but in a life or death situation such as this, does leaving out intricate details of the operation make sense?

#### REDEFINING THE PRE-CONSTRUCTION MISSION

The first step that must occur in any construction organization is to change the mindset surrounding a project’s start and hold the project team accountable to execute planning with discipline. Contractors can say they understand the importance of pre-construction planning, but as customers’ demands roll in and urgent issues take center stage, discipline to the process can fly out the window. The problem lies in that most people do not view planning as work. Largely viewed as an administrative function, it fails to capture the attention in the same fashion as a concrete pour or a site clearing. Organizations must recognize that planning is in fact work. Done correctly, truly collaborative project strategy sessions will leave teams exhausted. Hand-offs, turnovers and dumps require little effort and energy. By all accounts, these types of “imposter planning” do not compare to real collaborative planning.

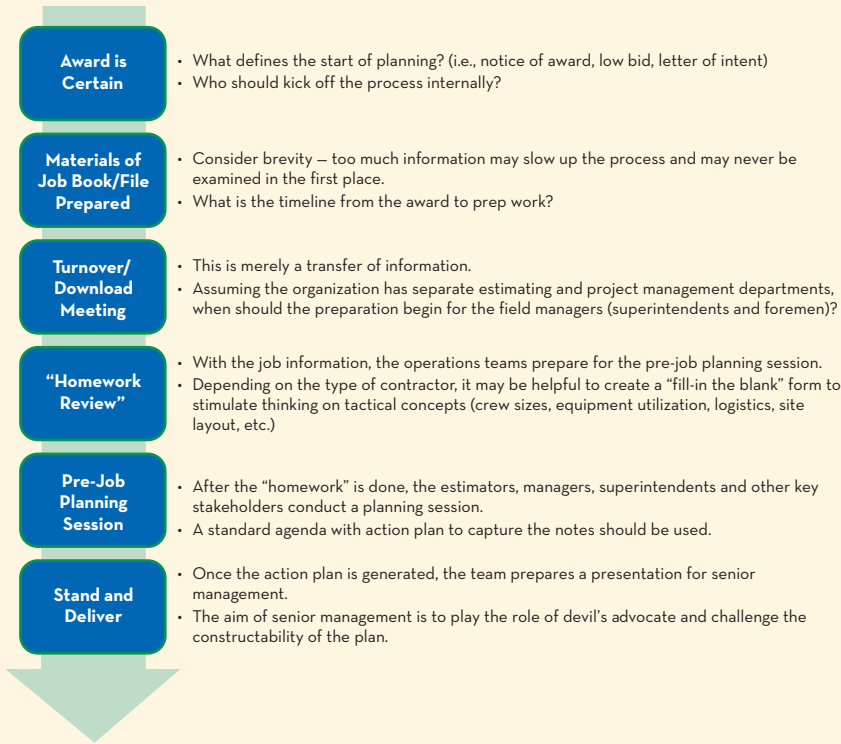
However, there will always be impatient customers and contractors that demand to “see bodies on the jobsite.” An argument can always be made, but it would be naïve to think that everyone’s perception of planning is the same. If this is the case, there is certainly mindless work that can take place as part of mobilization that does require little planning. Erecting silt fences, site tree staking, site clearing, establishing maintenance of traffic,

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**Contractors can say they understand the importance of pre-construction planning, but as customers’ demands roll in and urgent issues take center stage, discipline to the process can fly out the window.**

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Exhibit 2

**Best of Class Pre-Construction Planning**

layout and simple demolition are all examples of work that is less sophisticated and can exhibit progress to a customer. Ultimately, planning still occurs but in parallel with these activities. It is not forsaken simply because the customer demands action.

Up to this point, turnovers, dumps and downloads have received a negative connotation. It is important to note that the concept of these elements is in fact an important part of this process. By no means is the intent to do away with this essential step. The main tenet is to recognize that the true planning effort occurs *after* this step. Exhibit 2 illustrates a best-of-class Pre-Construction Planning Process.

Another fall-down of most pre-construction meetings is the lack of structure. Maintenance of a standard pre-job planning checklist, complete with firmwide specific categories, guides the discussion and potentially uncovers sticking points on the project. For instance, a standard agenda might include the following:

**Permitting**

- What are the project-specific jurisdictional considerations?
- Who will be responsible for the permit/inspections?

**Documents**

- What is the status of the current construction documents?
- What are the known errors/omissions?

**Trade contractors/Vendors/Suppliers**

- Who are the key vendors?
- What concerns exist with this group of vendors (based on past performance)?
- What strategy can be used to hedge against vendor/trade contractor failure?

**Value Engineering**

- What are the approved/denied value engineering tactics?
- What are the strategies to gain approval for future?

**Decision Makers**

- Who has the authority to make approvals on change orders, colors, finishes, etc.?
- Who decides when the project is done?

**The Big Picture**

- What is our strategy to improve the margin?
- What is our approach to developing internal resources (i.e., new foremen, engineers, administrators, etc.)?

This list merely represents some of the more popular categories contractors utilize to stimulate discussion. Many contractors attempt to create checklists based on the individual niches in which they operate. In most cases, it is better to develop a comprehensive firmwide list and simply disregard the line items that do not apply for a given project. This also prevents multiple versions of the pre-job planning tool from circulating within the firm as well as provides an excellent cross-training tool for those contractors that operate within multiple markets, niches or customer bases.

The output of the meeting is simply an action plan. Open tasks will have a person identified as the accountable party with an appropriate date. With many software programs, these action plans can then be sorted and/or prioritized. Regardless of the vehicle used to generate the list, each project team member has a “to-do list” necessary to effectively begin the project.

The last step in the process is the “stand and deliver” presentation by the project team. Rather than focus on project minutia, such as the location, the customer and facts more suited for an almanac, the presentation must focus on how the team will construct said project. For instance, the following list represents an excellent starting point for most presentations:

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**Regardless of the vehicle used to generate the list, each project team member has a “to-do list” necessary to effectively begin the project.**

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- What is the overall approach to the project? What is our edge?
- What are the major concerns with the schedule?
- What if the weather turns bad — how will the team recover?
- What tactics will be used to gain days on the critical path?
- What are the major concerns with the vendors and trade partners?
- How will you gain one to two percentage points on this project?

Senior management serves as a panel to the project team to challenge the assumptions and ensure they are truly ready to execute. While this is not meant to be a Dale Carnegie training session, there is a secondary benefit of improving the presentation skills of the managers and superintendents in a low-risk environment. This presentation can be as long or short as it needs to be, but the main focus is to ensure there is a plan and the “rocks in the road” that exist on every project have been appropriately addressed. Some organizations have gone so far as to have the project team go back to the drawing board if it became evident that one member — the project manager or superintendent — was not prepared. Dropping ill-prepared operators into a hostile environment does not work in any scenario.

#### FROM THE SITUATION ROOM TO THE BOARD ROOM

General contractors and trade contractors experience both elation and trepidation on bid day. Quotes range from “Great! We won!” to “Uh-oh, what did we leave out?” Countless hours of estimating and consternation have gone into the budget and proposal development. Hit rates are lower than ever, requiring even more creative approaches to getting profitable work. Estimating is largely a thankless job with few successes. Furthermore, the ever-present “armchair quarterback” scrutinizes line items and challenges assumptions with quotes like, “There is never enough money.” With all of this considered, it is no wonder the thought of rolling up their sleeves to begin rehashing the bid is largely met with disdain. It is so much easier to create a binder, hand it off and get back to the grind of getting work.

Planning requires time, discipline, constructive conversation and team commitment. Contractors that have transitioned from the dictation to the collaboration have experienced significant bottom line improvements. Commandos repelling into dangerous territory on zip lines look fluid and have the grace of a precision timepiece. There is no wasted effort and every action is calculated. In some cases, an operation such as the one described previously take no more than 40 minutes. However, thousands of hours of preparation, practice and planning enable the fluidity and mean the difference between success and failure. For construction firms, there is a direct correlation between poor planning and failure. In any economy, the real action occurs on the planning table not the battlefield on the construction site. ■

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## STRATEGY

### Primitive Weapons Won't Feed a Village

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Once, hunting with primitive weapons produced enough meat to keep a village well-fed and safe. It allowed a few hunters to focus on finding food, bringing it back to the rest of the village who would clean it and get it ready to eat. Back then, loss of habitat, diminished herds and more hunters meant that better hunting technology was needed to sustain the village. It is a natural progression — what worked in the past will be challenged by changing conditions.

Today the hunt for work is difficult; the fields are overcrowded with hunters. Customers have unprecedented choices when selecting contractors. Customers get to choose from the best and brightest contractors for projects large and small. Using the primitive tools of yesterday will not keep your village of people productively employed. You need to improve the weapons you use to hunt and bag work.

Thriving in any market stems from the ability to see into the future, determine where the market is heading and get positioned to take advantage of opportunities. Opportunities exist, regardless of market conditions. The key is advanced warning and a good plan of attack.

Reflect on what your organization has faced in the last two to three years. We are climbing out of the longest recession in recent memory. Typically, a recession lasts 14 months; we have faced more than 30 months of economic struggle. What would you have done differently in 2007 and 2008 if you knew that the economy would be where it is now? Would you have:

- Rightsized quicker?
- Diversified into nontraditional market segments?
- Realigned your company faster?
- Shifted more resources into business development?
- Grown new skills and abilities in your people?

That reflection is what future market insight delivers. It gives you the time to create a game plan to get positioned for a change.

The lessons we have learned these last several years will help all of our companies operate more efficiently in the years to come. One of the key lessons learned is that it is impossible to save your way to prosperity. Cutting costs

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**Thriving in any market stems from the ability to see into the future, determine where the market is heading and get positioned to take advantage of opportunities.**

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and realigning the organization are good areas to focus on when heading into a recession. They give your company the security blanket needed to withstand market shocks. However, simply cutting back does not get you positioned to win and win big.

FMI has a number of clients who are putting up their single-best years. Some are positioned in good market segments; some have found areas to compete in the market that give them a competitive advantage. Others simply are getting back to basics and executing strategies that have proven successful

for years. All of them faced the realities of the new normal and aligned their company strategies to marketing and business development activities that allowed their companies to win in a difficult market.

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## The difference between today's modern rifles and a shotgun is a decision that affects more than the outcome of a hunting trip.

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### START WITH STRATEGY

Marketing and business development are designed to win the customers and projects needed to drive the company's strategic plan. Both need to be aligned with your corporate strategy.

In an ideal world, you would want to get positioned for a changing economic market six to 12 months in advance of market changes. We do

not live in an ideal world, far from it. But getting positioned makes solid business sense. It is the shortcut to getting ahead of the curve and capturing an advantage. You do not want to reflect back from 2014 and wish you had taken better advantage of the market when it was growing out of the recessionary hole.

Strategy answers the question of how a goal will be accomplished. For marketing and business development activities, strategy answers the question of how the company will target and win the right customers and projects. Strategies might include being the low-cost provider (while generating a healthy bottom line), being the go-to contractor for pharmaceutical companies, providing private companies with a design-build advantage they cannot gain elsewhere, or creating unique solutions for a key customer. Regardless, corporate strategy needs to identify which marketing approaches and tactics are necessary, and which customers and markets to target to determine the right level and focus for business development or sales activities.

If marketing's job is to keep in touch with customers and warm up prospective customers to buy on value, it only makes sense that business development activities are focused on the areas of opportunity created by marketing.

In far too many construction firms, marketing is tied to strategy but lacks any real integration or collaboration with business development. Full-time business developers find themselves calling on potential and current customer without taking full advantage of focused marketing efforts to lead the way.

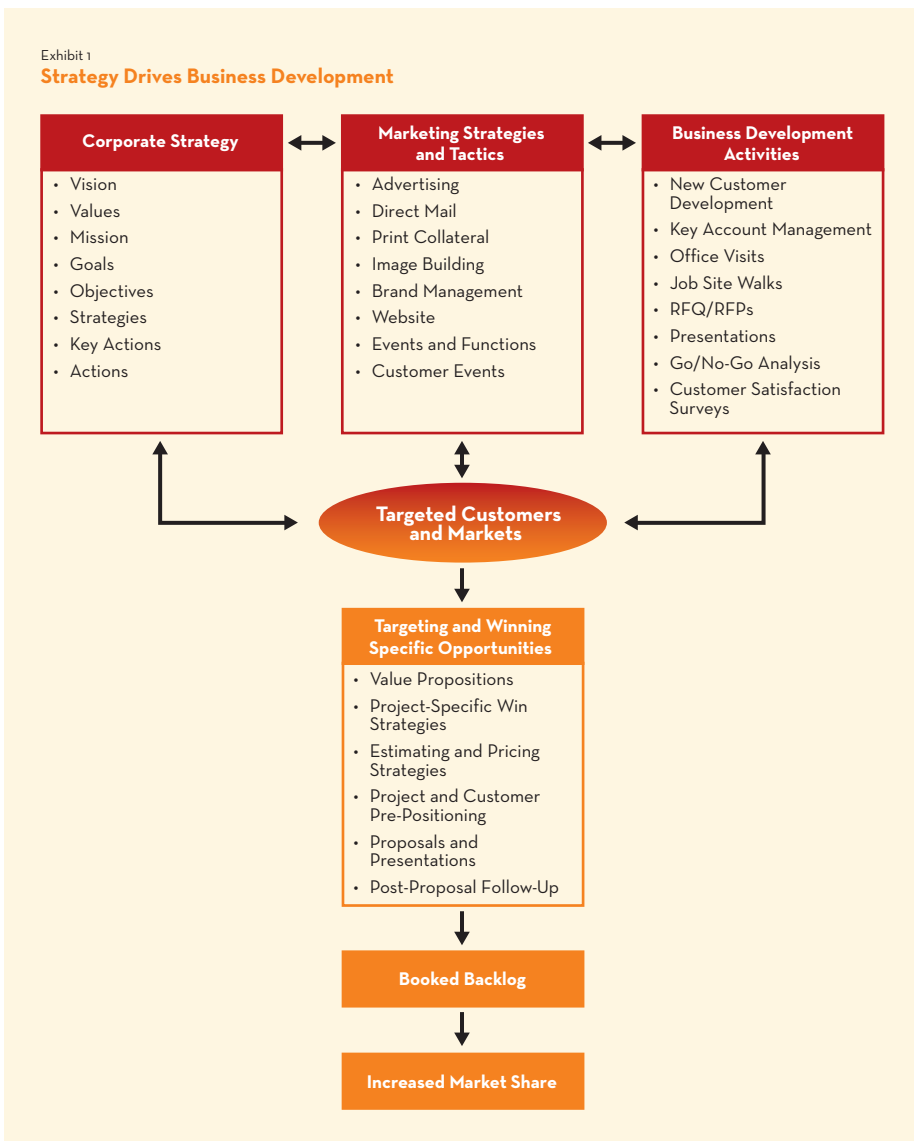


Business development is far more successful at targeting and winning work when marketing leads the way by positioning the value the company delivers (see Exhibit 1).

### TARGETED CUSTOMERS AND MARKETS

The difference between today's modern rifles and a shotgun is a decision that affects more than the outcome of a hunting trip. A shotgun or a rifle will influence your overall marketing and business development efforts. You need to make a conscious decision on how you will apply your marketing and business development resources. Do you want to reach wide, blanketing a whole market? Or do you want to pinpoint where you are most likely to be successful and concentrate efforts there? Shotguns are for use at close range and spread the impact over a broad area. Rifles are used when the target is specific and visible.

You may not know all of your potential new customers, but you probably know about them. You might not know their names, but you do know the



business intent behind their next projects. You might know where they are located, the types of circumstances that warrant expanding their facilities, and even the top considerations they need to take into account when building a new building.

Targeting customer characteristics is much more effective than trying to target a whole market. Instead of targeting the general market segment of health care, you might target private hospital systems with stable endowments that have recently started to expand, but lack a full complement in their facilities departments. Whichever the criteria, the key is going back and digging through your completed projects to see what customers and projects have been the most successful. Then, use those criteria to target new customers.

Which is the right tool to use for your marketing and business development activities, a rifle or a shotgun? It depends on your aim certainly. If you can determine the characteristics of the best customers and projects for your company, you will find reaching out with the focus of a rifle will best leverage your ability to touch the right customers with the right message and win more work. If you lack the knowledge to target, plan to spend more money and time to find and win good customers.

#### MARKETING STRATEGIES AND BUSINESS DEVELOPMENT ACTIVITIES

Using feet-on-the-street sales resources is effective for getting out and meeting people. But, as a chief tool for warming up a new market or customer segment, it also is slow to generate results, tends to position you as “one of the pack,” and requires a good deal of time to execute.

However, a feet-on-the-street approach is highly effective at converting potential, qualified customers to real work opportunities. If you want to quickly warm up “cold” contacts and get positioned, use a blend of marketing and sales to create the one-two punch that lands you a customer. Not only is marketing more cost-effective per customer “touch,” but it can reach more potential customers faster and more efficiently than sales alone. When you use a combination of sales and targeted marketing efforts, you will get positioned and generate more leads faster.

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**Targeting customer characteristics is much more effective than trying to target a whole market.**

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In other words, unless you are positioning the added value your company brings BEFORE the project, you have a significant chance of ending

up competing on price on a “cold” lead. Sales is about building relationships and finding out specific elements that can be used. Marketing sells the big picture and drives name recognition. Marketing is more than mass mailing; it is about creating conversations with customers and potential customers.

At a time when many organizations are feeling the pinch of too few resources out meeting with customers and potential customers, marketing

can help you extend your reach, gain more qualified opportunities and close more work. Nic De Salaberry, manager, Strategic Initiatives, PCL Constructors Canada Inc., agrees. “Marketing creates an opportunity for a candid dialogue with clients before there is a project on the table. It allows you to build a relationship with a view to understanding their needs and wants, while helping them understand your unique capabilities. Marketing allows you, and the customer, to be better-positioned for action when a project opportunity does arise.”

#### TARGETING AND WINNING SPECIFIC OPPORTUNITIES

Every market cycle presents both challenges and opportunities. It is sometimes difficult to see the silver lining in the dark economic cloud that has been hovering over us, but opportunities do exist. Gather the facts you need about your customers, market, competitors and company to get real about what is working and where opportunities exist. When companies have facts in hand, they are more likely to create the courageous strategies needed to break out of the pack and get ahead of competitors.

Today you have to be able to give customers a solid business reason to pick you. Use the coming market change to get ready to position your firm for success. Identify where you can leverage your company's capability and core competencies that give customers an excuse to pay just a bit more for you than for the next competitor.

As mentioned earlier, you want to get positioned six to 12 months in advance of a market change. There are already a few markets that are warming up faster than others are. Get the facts and get your bright minds together to help envision the future. Get your strategy straight and prepare for rays of sunshine to start cutting through those dark clouds overhead.

If you are willing to invest the time and effort, you can replace cases of shotgun shells with a few well-placed rifle rounds. ■

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**Marketing creates an opportunity for a candid dialogue with clients before there is a project on the table. It allows you to build a relationship with a view to understanding their needs and wants, while helping them understand your unique capabilities.**

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*Quarterly Interview*

# Issues to Consider When Recovery Is Under Way

*Billy Miller  
and Jon Tate*

ZURICH NORTH AMERICA

**I think most contractors are  
taking a conservative  
approach before  
they expend  
a whole lot of  
money, but I think  
the reality is if you  
wait too long you will  
be left behind.**

— BILLY MILLER

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Although the recession is over and economic growth is strengthening, some experts predict that the construction recession may last another 18 months before it completely runs its course. That is not good news for anyone in the construction industry.

**It is a new world and many companies have changed the way they do work in order to survive.**

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The road to recovery is a slow one, and there are a number of issues contractors need to consider as they inch their way to better economic times. FMI recently spoke with Zurich North America's Billy Miller, assistant vice president of Field Operations — Risk Engineering, and Jon Tate, assistant vice president of Construction Specialty Services — Risk Engineering, about what contractors need to take into account in order to be well-positioned in this new world.

**FMI Quarterly:** What are the implications of having insufficient cash to support a rapidly expanding backlog?

**Miller:** One of the things I think about is resources (supply and equipment on-site) and being able to pull operations together to be able to get projects kicked off, with a strong start.

**Tate:** One of the first things that comes to mind for me is having the cash flow or the credit to support project needs. If banks aren't willing to respond, then the contractors may not be able to support the project's cash flow needs — I think that's probably the big issue.

**Miller:** Contractors should have owners more involved in the early stages of getting projects kicked off. They also need to think about mobilization to the project and what the owner's expectations are for the start-up. We have seen very large projects where there has been a long wait for the project to occur, and because of the funding delays and the extensions that have occurred, expectations are for contractors to come in at that same level of anticipation and excitement that the owner has for the project. Getting a handle around that anticipation, especially when it comes to manpower, equipment and how you are going to operate the project from an administrative standpoint is probably one of the biggest challenges to help contractors understand — that there is a mismatch in how they are trying to meet the owner's expectations. The owner may have been through several years or even a decade trying to get the project implemented, where the contractor has only come about

with this process in the last few years or the last few months, and now he is expected to deliver something that has been the goal of the owner for a long period of time. Managing expectations is probably one of the biggest issues about cash to support backlog; financially, you have the reality of what you have to operate with for the project and what you expect to be by your

project plan, and then you have the customer demand, which is helping to reset those expectations to be aligned with your business plan.

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**“Under-promise and over-deliver” would be a good guideline of what people should be thinking about when they try to meet the project expectations.**

— BILLY MILLER

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**Tate:** Where shortages exist or are anticipated, I think owners need to think about purchasing materials and equipment even more so than they might have in the past. That may be the growing trend anyway and would certainly alleviate the burden on the contractor.

**Miller:** Another issue in general is a genuine fear of over-expansion and overcommitment on cash flow based on the perceptions of economic recovery. Contractors typically take a very conservative approach to make those changes, but there is a need to make sure that

they are not damaging the relationship and the culture at the project level. Natural fear results in the tendency to hold back and be conservative, but in some cases, you may need to get a good start with key project components around expectations with the owner.

**FMI Quarterly:** How do you go about doing that?

**Miller:** Part of this issue is looking at the project schedule and understanding what the initial benchmarks are — the critical path activities — with the owner. In general terms, contractors want to exceed expectations, so part of this issue is to agree to things and set things in place so that they can definitely win on the first critical path benchmarks. If they do not do that, owners will lose confidence and start asking difficult questions. The contractors end up spending time defending their actions and decisions on resources versus being proactive. “Under-promise and over-deliver” would be a good guideline of what people should be thinking about when they try to meet the project expectations. I think that is where to maintain the focus.

This also speaks to the issue of people working to the limit of their letter of credit. If you have good financial partners, you need to maintain your relationships and expand their understanding of your business. One of the

principles that we should talk about here is that contractors really need to deepen those relationships they have with their financial partners as they start to grow. The contractors who get the work will get the letters of credit typically. The contractors that are in the prospecting state too long — they will start to come under question and scrutiny if they do not get the stable backlog. Conversations with both the surety and financial organizations are completely based on people understanding your business model and completely understanding what kind of financial risks you are going to take as an enterprise.

**Tate:** As an owner, it is certainly a consideration in prequalifying GCs to make sure that they do have solid financial backing and can tap into reserves if necessary.

**Miller:** The other financial piece to this is that contractors stay within the sweet spot of the philosophy of their company's vision. Some people are taking the premise that they will take any work they can get. I was recently talking with some construction owners and they are still experiencing people bidding work outside of their sweet spots. These owners are really asking questions about what the dedication is to that type of industry or that type of segment to the business.

**FMI Quarterly:** What are some of the implications you see when people move out of their sweet spots?

**Miller:** It is unknown territory because they may not understand what resources are needed to accomplish or complete that type of work. For example, think of someone who is moving from into a different segment of work, say from commercial building over to heavy highway. This contractor might not really understand the implications from the regulatory control that is involved — the approval process, the submittal issues, the RFI concerns — and it has a tendency to underestimate the administrative overhead and costs for those things.

**Tate:** There are all kinds of areas where that might come into play, such as geographic, technical or owner-related. Each of those certainly has different demands.

**Miller:** One segment that Jon and I have been talking about a good bit is homebuilders. When the work dried up, they started showing up on all of the bid lists, such as small post office jobs where there were typically only five to six bidders and now there are 30 bidders.

**Tate:** Several examples come to mind where contractors were inexperienced in a region and/or specific project type and ran into trouble. Regional challenges might involve labor, or approvals, for example, which can lead to schedule issues at a minimum.

If a contractor is not familiar with a certain project type, it may leave some

things out of its bid or may not have the technical expertise needed to execute the project properly. These are things gained through experience that successful contractors address through strategic hires or adequate research before moving into new areas.

**Miller:** Contractors may need to consider some joint venture partners to make sure that they have sufficient capital to go and execute some of the work. We are starting to see a few of those joint venture projects, especially some of the larger, multiyear projects greater than a billion dollars — which is to be expected. It is interesting how the percentages from the different joint ventures have changed from the different partners. In some cases, even during the cycle of the joint venture, it has been adjusted based on cash flow concerns. One organization had the ability to contribute more than the other did.

**FMI Quarterly:** What are the repercussions of doing business with people whom themselves are on shaky ground and could still go out of business?

**Miller:** One of the pitfalls is that a delayed project typically costs a lot more money because you end up with some risk factors associated with activities not happening at the right time and materials, equipment and

people exposed to things that would end up costing more money.

For instance, a/c units left open and not closed up could violate warranty issues. You could have structural steel put up that actually starts to receive weather damage to the point that it would have to be reconditioned before construction could continue — those kinds of delays.

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**Contractors may need to consider some joint venture partners to make sure that they have sufficient capital to go and execute some of the work.**

— BILLY MILLER

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**Tate:** General contractors need to do a much better job of prequalifying their subs and making sure that they are able to do the work, man the projects and have the cash flow and financial backing to purchase their materials. You certainly want to pre-qualify them before making an award and when the actual schedule does not start

for a year and it is a two-year contract — it is definitely worth revisiting. If you get into a situation with someone who is a little shaky or showing some signs of having some problems, it is prudent for a contractor to have a risk mitigation plan in place. Do we need to go to a joint-check procedure with the subcontractor, or do we need to be prepared to take over some aspect



of the contract or award a piece of it to another subcontractor? Think of all of the various steps you could take to protect yourself on the project.

**FMI Quarterly:** Is this where your Subguard comes into play?

**Tate:** Yes, that is where the insurance would kick in and compensate the contractor for any lost costs associated with that default. Another thing we encourage contractors to look at is the exposure they have from other projects when they are dealing with subcontractors and suppliers. They may experience a default based on something that happened on another project that the sub is working on that puts it in a cash flow situation. It is wise to know where else the subcontractors are working, how many jobs they have and how that relates to prior experience. If they have 20 jobs right now and the most they have ever had in the past is five, can they handle it? Maybe they can — maybe they have acquired somebody else and they are now in a position to take on more than they were previously able to. Nevertheless, it is certainly worth asking the question.

**Miller:** This really goes toward staff issues as well. If you have someone who is having trouble to maintain being in business and is running a skeleton staff model — they may be shifting to match critical paths on other projects that can affect workload, schedules and other things on your project as well. Craft consideration and questions about when you can have key personnel who will be important to the critical path on-site and for how long must be addressed, especially when it comes to having certified welders and some of the other things that would become essential to maintaining the schedule, etc.

**Tate:** No question. Your point is well made, Billy. When I was in the industry, we looked over the business plan every year and were very conscious about not biting off more than we could chew. That meant looking at how many and what type of projects we could handle and lining those up with industry trends — looking at what would that take from project engineering, project management as well as key craft considerations. Did we have what it took to meet our business plan? There were some years that we would trim the business plan back, just based on the feeling that we did not think that we

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— JON TATE

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could do the job the way we wanted to do the job. This was during boom times when everybody was competing for talent, though.

**Miller:** Another thing to take into consideration is critical staff. A general superintendent may leave the organization if he or she feels the business is on shaky ground, just based out of survival. This could have a huge effect on the organization. And if the rumor mill perception — even if it's not true — is that the company is struggling, that can have huge staff implications and usually that happens right at the wrong time for a deadline or hitting a milestone with the owner.

There needs to be a significant amount of effort in discussing succession planning. “If we lost key people, what would we do to make the adjustments to get the right people in place, and how long would that take?” I think those are key questions that have to be asked. In any startup we have ever been a part of, competition for talent does drive change. So, as construction does start to recover as in industry, there is going to be competition for talent. You are going to see young up-and-comers who are looking to make their mark on the industry leave for inconsequential reasons — sometimes for a minimal amount of salary, but in some cases it might be the opportunity to start a new department or a new venture of business. So managing the legacy of the company, the vision of the company and the strategy of where the company is going to go in the future is essential to morale.

As a steward of a construction company, you have to be concerned with morale and understand how your managers are talking about the future, the backlog and what future opportunities await for the next level of managers coming up through the organization. There has to be a good feel that there is opportunity for the next generation of managers. If there is not, you'll start to have a bleed-off of talent that could cost you tremendously. To replace a person and get the new person up to speed takes a lot more than just that person's salary increase or simply communicating a vision of where you see that employee as a leader in the future.

**Tate:** I also wonder if we are going to see a gap. If I'm entering college right now and am looking at the economy, I'm looking at the hot jobs, and construction is probably not on my radar. Not that construction has been on the minds of many college students for the past 30 years or so, but I think more so even recently — the career and the jobs are just not there. I think on the management side, if not now, maybe a few years from now, you are probably going to see a gap. I think right now that there are enough people circulating that you shouldn't have much trouble bringing new people in; but I would bet a few years down the road, that it could be an issue.

**Miller:** We are starting to see more acquisitions nationally and that is just a continuing shrinking of the construction community. I can remember a project I was on 20 years ago with 50 supervisors and not one person was from the same company. It was a ramp-up to try to cover a project in a remote

environment, and most of the management discussions were “This is the way we did it where I used to work.” It was always a challenge to try to corral people and convince them that the philosophy of the new company was the way to go. I think the clashing of cultures will cause concern, especially for people who have been on shaky ground and have been subjected to some acquisitions. How solid is your philosophy on the way you conduct business? What is your belief and premise? Is that a consistent process that is transcended through all of your management staff? Do they believe in same philosophies? Do they execute and operate around those principles of the culture?

Keeping your talent on a project from beginning to end has always been a problem, and I think when you have an expanding economy, successful people get promoted. Having a successful project is wonderful, but you also run the risk of losing some of that talent. I cannot think of a project director or a project manager on a significantly large project that made it two-thirds of the way through or ever halfway through that he or she was being asked to take on another role. Role matches and people’s perceptions on company growth — both have an effect on the way projects are managed.

**FMI Quarterly:** What do you do with staff members who now have the wrong skill sets due to new or different work?

**Miller:** Not having appropriate training for the work is one of the biggest concerns I have from a safety standpoint and from a staff development perspective. The demand for talent is going to drive some people to do work that they are not qualified for or have not had experience with. It is going to be up to the construction owners and the subcontractors to make sure that the people they bring to a project are adequately trained and that there has been some proficiency evaluation before they turn them loose. I recently read about a fatality of an employee on a man-lift. The way they operated it under the bridge caused his clothes to get caught in the controls and slammed him into the ceiling of the bridge. The accident

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**Contractors need to make an investment and provide adult learning in the way it should be — video training is not enough. There needs to be some practical application, there needs to be some mentoring and there needs to be some validation.**

— BILLY MILLER

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describes the vast majority of the companies, who say, “Let’s do everything we can to survive,” and unfortunately training is one of the first things to go.

**FMI Quarterly:** That’s common in all industries, not just construction.

**Miller:** Absolutely. It is a definite trend across all industries. I also would say that there is a difference between employees who have experience in working in a role as opposed to what we call “video-trained employees” who just showed up to the job last week and have only watched a lot of videos, with no hands-on training. The percentage of those employees having an accident within a year of employment is three or four times higher than the trained employee, and in some cases it’s higher than that, depending on what craft they perform. Contractors need to make an investment and provide adult learning in the way it should be — video training is not enough. There needs to be some practical application, there needs to be some mentoring, and there needs to be some validation. There should be a little bit of trust but a lot of verifying in the way a company does their training.

**FMI Quarterly:** What do you see as the biggest challenge facing contractors as the economy slowly recovers?

occurred because he tried to get out of the basket and the platform. This person needed to be trained adequately to operate the equipment and make sure that they had it in a safe situation before he tried to exit the basket. That’s a good example of something that would affect your project — making sure that your staff is properly and adequately trained to function.

**FMI Quarterly:** Unfortunately, training budgets are often one of the first things that companies cut in troubled times.

**Tate:** One thing we advise our contractor customers to do is to have their people who may not be fully utilized right now to train on programs that they may not have had time to do in boom times. It’s a great time to do training now. I think there are some companies that are doing a good job of that. However, I think what you said about training budgets being cut

**Miller:** People and then equipment.

**Tate:** Staffing is the very first thing that comes to my mind. I think it is No. 1. Having an adequate number of qualified people. That's who makes the decisions. That's who build the projects.

**FMI Quarterly:** Do you see technology coming into play at all?

**Miller:** The construction industry has just been slow to adopt technology. There is a certain sense of distrust with technology. If you cannot feel it, taste it or wrangle your hands around it, you have a tendency to think that it is not going to add value sometimes. People who have adopted technology are at an advantage over other contractors. This is an age where we are watching generational change. I'll give you a good example. I have an older contractor I recently communicated with who still does not have an email address — he has it sent to someone else. Later I had a conversation on LinkedIn with another contractor — kind of a same time chat message — but he's a second-generation owner. So I think generationally there's a big change sweeping through the construction industry. The wave of adopting technology is going to give people advantages in certain areas where others do not have it, especially when it comes to monitoring projects — taking all of the paperwork we typically produce on a project and making it electronic. Whether you use auditing systems that are electronic. Whether you use tracking systems to track your materials and supplies. The Construction Industry Institute did a study about radio-chip tagging all supplies and equipment so that less time was spent looking for pieces of equipment or, in some cases, reordering equipment or materials the company already had. That study showed an efficiency gain from that tagging, and those contractors who adopt that technology and make those initial investments are going to have some advantages over those who do not.

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The problem that I see in general about technology is the same issue that affects all of us and that is the standardization of technology — allowing one type computer to communicate with another or a database to be able to interchange with another one. It is still pretty costly. And as those standards change and become more common, I think you'll see more and

more companies adopt technology. Contractors believe that, “Hey, I’ll collect all of this data electronically, but there’s not much I can do with it if I can’t communicate it back to my costs sheets and other things I need to connect it to.”

**Tate:** I was thinking the same thing when you first mentioned the topic. I think the technology is out there for the industry right now — there are all sorts of new software applications for the industry to adopt. Certain contractors are jumping on to certain systems and that is working for them. But I don’t know that there’s that common standard that you mentioned, Billy, which anybody can latch onto and say, “This is for us.” For example, there is scheduling software that has been out there for some time and adopted and kind of the standard — not everybody uses it, but that’s the one that we all kind of agree on.

**Miller:** I think most contractors are taking a conservative approach before they expend a whole lot of money, but I think the reality is if you wait too long, you will be left behind.

**Tate:** I think scanning and bar coding is finding its way onto bigger projects, and I think the next generation of construction leaders is going to drive it. That is how they have grown up and how they communicate, and it will be forced upon the industry. But I don’t know if we’re there yet. In pockets you see some innovative things done very well, but I don’t think on a whole that we are jumping on everything yet.

**FMI Quarterly:** What advice would you give contractors on “the slow road to recovery”?

**Miller:** When I think of the slow road to recovery, I think: Approach with caution! One thing we would remind contractors to do is not to overextend themselves too fast. The worst thing you could do is to bring on a bunch of new people and staff and not have the work to support them going forward after those one or two initial projects are finished. You would lose the tacit knowledge investment that you would have made during that time to take to the next project.

**Tate:** I think certainly that the opposite of that is true — getting more work than you are able to support.

**Miller:** We know people typically are more afraid of overextending themselves than will come out of the gun too heavy. I think the general nature of a contractor is to try to be on the conservative side most of the time, especially with staffing and start-up.

**FMI Quarterly:** Do you see the industry returning to how it was before the recession?

**Miller:** From what I’ve heard from the economists and the articles that I’m

reading today — my indication is that the recovery is going to be spread out over a longer period of time, and it's actually going to have more implications and better opportunities for more people who diversify not only here in North America but also in other places around the globe. It is going to be longer than most people expect, and it is going to relate directly to financing and people's ability to find dollars to develop.

**Tate:** I think in certain industry segments, we are going to see things take off, and the rest will follow like it always does. But I don't see the industry returning to the pre-recession boom for some time.

**Miller:** We are not there yet and we are going to see some downward shifts continue to happen. We are going to see some more acquisitions — we're already seeing those this year. President Obama recently revealed that he's going to cut another \$4 trillion out of the federal deficit over the next 12 years, so federal spending and stimulus spend are going to go down again, which is going to affect all of the government work that has sustained a lot of builders for a while. I think private industry and capital funding are probably going to be the next place that grow a little bit, especially with P3 projects and large projects with private capital. But they're probably going to be a little more spread out, and I think there are going to be larger projects, and the need to approach that with partners and joint ventures is going to be significant. There is going to be a combination of solutions for these large capital improvements that are going to be needed in the U.S. and Canada. Globally, we are still seeing a lot of growth in key emerging markets like Brazil and Asia. There will be a rebuilding in Japan at some point and people will rally to that — we saw a huge increase in construction activity in Guam in the past few years resulting from defense spending. There will be some things that will occur that will give contractors the premise that the return is here. But I think the word of caution is that this is going to be a recovery over a longer period.

FMI thanks Billy and Jon for their thoughtful insights and advice to contractors on what to expect on this slow road back to better economic times. ■

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**I think in certain industry segments we are going to see things take off, and the rest will follow like it always does.**

— JON TATE

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# Firmwide Quality: Pursuing the Highest Standards

Most firm leaders are well aware that they need to evaluate and adjust firm practices and strategies for the long-term survival of the firm. The difficulty many face right now is how to keep the firm going for the next week, month or year.

*By Steven J. Isaacs and Karen L. Newcombe*



fter 15 years of pursuing their goal to become the first consulting engineering firm to win the Malcolm Baldrige National Quality Award from the National Institute of Standards and Technology, Freese and Nichols, Inc. of Ft. Worth achieved success. What does the award mean for its business, and why should your firm consider similar pursuit?

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Consulting design firms who have made it through the recession are now trying to determine what the new landscape looks like. CEOs of these firms that FMI spoke with during the first quarter of 2011 say that their current questions include:

- What is our competitive advantage now?
- How have our clients' needs changed?
- Where is the money going to come from?
- Who are our competitors today and in the future?
- How do we keep our best people and find new best people?
- What methods can we use to identify and correct cost and schedule deviations before they happen?
- Where will we be in five days, five months, five years?
- Who is going to lead us forward?



When Cindy Milrany, chief financial officer at Freese and Nichols, Inc., a consulting engineering firm in Ft. Worth, Texas, received a phone call last November from U.S. Secretary of Commerce Gary Locke, she knew that Freese and Nichols had answered all of these questions to the highest standards in the United States. Secretary Locke was calling to tell her that Freese and Nichols had become the first consulting engineering firm to be awarded the Malcolm Baldrige National Quality Award.

#### WHY PURSUE SUCH A RIGOROUS PROCESS?

The firm's 15-year journey on the Malcolm Baldrige quality path began in response to a previous time of turmoil for the A/E/C industry: the early to mid-1990s. The recession of 1989–1991 marked a point in time when the technological

and communications revolutions emerged from the halls of defense and scientific institutions and began their widespread impact in the business world.

We asked Milrany how Freese and Nichols decided to pursue the Malcolm Baldrige award in the first place. The firm could see changes all around it in the early 1990s, and by the middle of the decade, the impact became fully apparent.

“1995 was not a good year for our firm. This was the first year in the firm's history that we did not make any money — we lost 1.5% of revenue,” she said. “Texas was flourishing and Freese and Nichols works primarily with municipalities within the state. Right up through the end of the 1980s, these clients would send RFPs to a group of firms that they knew were qualified to do the work, as they had traditionally done. During the 1990s, we began to see municipal RFPs going online so anyone could get them. At the same time, national

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**The recession of 1989–1991 marked a point in time when the technological and communications revolutions emerged from the halls of defense and scientific institutions and began their widespread impact in the business world.**

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firms began moving into the area, and firms from outside our geography began pursuing work in our area. Competition heated up, and we began seeing projects awarded to these national and outside firms. By 1995, we had that first year where we lost money. Obviously, we needed to look around and do something different — the firm had to change.

“Bob Herchert, our CEO at that time, was on the board of Texas Health Resources, a health care provider in Texas. He heard Clayton Fitzhugh, a former Baldrige examiner, make a presentation about using the Baldrige criteria to manage

their health care business. Hercher tasked Clayton to come and consult with Freese and Nichols to improve our business practices. Clayton brought criteria to us and made (the Baldrige Award) come alive for Freese and Nichols.”

The Baldrige award criteria fall into seven areas:

- Leadership
- Strategic Planning
- Customer Focus
- Measurement, Analysis and Knowledge Management
- Workforce Focus
- Process Management
- Results

Each category contains a set of questions that the firm must answer effectively in order to qualify. This means reviewing every practice and operation the firm has in place and adjusting or adding new practices where necessary — a valuable process every firm should employ on a continuous basis, whether following the Baldrige criteria or not. Meeting Baldrige criteria is a tremendous task — most firms do not achieve their award for 10 to 20 years or more. Freese and Nichols knew that if the firm did not change, it would not survive for the long term. The key, Milrany explained, is picking a starting point and building up over time, so that the new processes become an integral part of daily operations.

“That first year, when we had lost money for the first time, we had only one key focus: profitability. We built up our program from that base. Clayton brought an extremely disciplined strategic planning process and, as a former Baldrige examiner, he put everything in a perspective that was less daunting to us. The strategic plan is deployed to all our operating groups, and each of them has defined actions that go into their operating plans. The plan is deployed down to the operating groups and then further down to the individuals who are really the implementers. We review the plans every other month, so the action plans stay on target. We are very systematic about following the strategic plan. One of the Baldrige criteria is about measurement, and we are very proactive in monitoring performance: We compare to a balanced score card to see how we’re doing and how we can improve.

“Over the years the plan evolved to have three legs: management, technical skills and marketing. Sales is not a natural fit for engineers, so to meet the criteria, we added a definitive sales process for them that guides their actions in marketing and business development.

“On the technical side, we implemented a program of technical excellence teams to standardize the

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**Meeting Baldrige criteria is a tremendous task — most firms do not achieve their award for 10 to 20 years or more.**

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way we do all our technical work. The technical excellence teams ensure that each area maintains this consistency in its work. They also have an annual award program for innovation within the firm, as well as producing an annual Innovation Report for our clients.”

Just adding the Technical Excellence program has paid off for Freese and Nichols. It has received from one to three gold medals for engineering excellence from the Texas Council of Engineering Companies every year for the past five years.

### MAKING IMPROVEMENTS TAKES TIME

None of these changes happens instantly. The firm is constantly examining, in a structured way, how it can better meet the Baldrige criteria, which means improving its processes.

“All the changes build on each other over time,” explained Milrany. “We have seen great benefit to the process all the way through.”

The Baldrige criteria book presents a set of questions about how your firm operates, and the process aims to bring the firm’s processes and culture up to the point where you are able to answer those questions effectively. For example, under the leadership category, there is a long list of questions to assess if the firm is embodying leadership with its staff and clients versus just having a set of policies that have no action associated with them.

“One of the leadership questions is, ‘How do senior leaders deploy vision and values through your leadership system to the workforce?’” said Milrany. “To respond to this question, we came up with several methods. Every year we produce a strategic plan, and we make up a brochure that explains to all employees where the firm is going and the key focus areas. Then we put the entire plan on our

intranet, available to anyone on staff. Our CEO Bob Pence goes to every office in January to roll out the plan, and he revisits every office in July for a tune-up session. Our leadership now actively disseminates the firm’s vision and values throughout the firm.

“We also use a firmwide meeting agenda template that has our mission and vision printed right at the top of the page, so that at every meeting you have the firm’s mission and vision in plain sight. This was all developed over time — we did not have an instant answer to how to deploy vision

and values throughout the firm, but these are two of the ways we answered the Baldrige criteria for this question.”

Much of this sounds like common sense, but many firms do not take the time to be as rigorous about looking at themselves and then defining what needs to be done, setting goals and applying them throughout the firm — then measuring the results.

## MAINTAINING MOMENTUM OVER TIME

Fifteen years is a long time for a firm in our industry to sustain any one effort — most strategic plans or major projects do not last beyond five years. In today's climate of acceleration, three years is starting to seem more like a decade. Freese and Nichols faced some reluctance at the beginning. Evaluating and adapting needed changes across the breadth of the firm was a big commitment.

“As with any new initiative, there are detractors and we had a few,” said Pence, “although they were willing to move forward and see how it worked. One of the reasons for some of the initial reluctance is that the Baldrige criteria can be a difficult system to understand and most engineers just like to do engineering. Think of the difficulty of asking an ownership team to spend more overhead when the profit performance has been poor. It takes a real understanding that it takes money to make money and for them to realize we had problems that we had to resolve.

“One thing we realized was that any new process we adopted required up to three years for full integration until it became a normal way to do business, i.e., until we became unconscious experts. As a result, we did not take a broad approach, but rather instituted new processes over a period of time and allowed them to be integrated. One of the benefits is that combining each new process with an appropriate measurement and tracking system allowed us to see real results, and this built on the enthusiasm for the system. This is the main reason that we have been on the journey for 15 years. I feel that taking the time that we did provided better integration, more excitement within the firm, and kept things moving. It also deflected that old comment that this would be a ‘flavor-of-the-day’ type of initiative.”

Bob also pointed out the challenge of trying to set up the right kinds of measurements. “One of the lessons we learned was that not all measurements were good and we were very deliberate about canning those in a public way, letting the staff know that we didn't do good on that one. By using the Baldrige criteria, we were able to budget better and set achievable goals, which kept things positive.”

The firm's commitment to the process also survived leadership transition from CEO Bob Herchert to Bob Pence. The passion for this journey was one of the criteria the firm looked for in the selection of Herchert's successor, and there was no question that Pence was a believer.

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In any firm, changes that are obviously for the better generate enthusiasm, and that positive energy is reflected in the firm's culture and its work and filters out to clients. Everyone, both clients and staff members, would rather work with a firm that is changing for the better than one that is clearly stagnant, and that preference is reflected in Freese and Nichols' outstanding client relationships.

### BUILDING CLIENTS FOR LIFE

Freese and Nichols has a strong ability to build long-term client relationships, retaining 42% of its key accounts for more than 30 years, and 71% for more than 10 years...The firm adheres to a Hedgehog Concept (the single thing that the organization aims to do well'): "Be the very best at client service, resulting in long-term mutually beneficial relationships."

—Baldrige Performance Excellence Program summary sheet

The goal of every professional service firm should be to build long-term client relationships: The cost of obtaining a new customer is considerably high, compared to the cost of obtaining new work from an existing client. Firms constantly seek not how to build, secure and extend their existing relationships, but where to find

new clients. Yet every man-hour spent on securing new clients is time when existing clients are not getting your attention. Section 3 of the Baldrige criteria is about customer focus, and the first question is about paying attention to your existing customers.

Cindy Milrany explained how this question led Freese and Nichols to develop a new practice for the firm: "As we worked our way through the process, we initially won the Texas Award for Performance Excellence in 2007. When you submit for these

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**The goal of every professional service firm should be to build long-term client relationships.**

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awards, you get feedback reports from them containing list of things that you need to work on. When we got the Texas Performance Excellence Award, one of the things the report said that we needed was a structured process in place to check our differentiators over time and see what they should be in the future.

"The way we responded to this was by holding a client panel. Now we think we know what differentiates us in the marketplace. But we invited municipal clients to come in and we asked them 'What will change over the next 10 to 15 years, and how will it change us as a firm?'

"Many firms think their clients don't have time to do these kinds of activities, but that is a misperception. Our clients loved this and wanted to help us get better, and they enjoyed the opportunity to be with their peers from other municipalities. They were flattered that we invited them to give us advice and valued their opinions and did not see it as an imposition at all."

CEO Bob Pence is also proud of how the firm's corporate university has attracted client participation, further increasing the link between them. "We've

had Freese and Nichols University for 10 years, and in late 2001 we offered the opportunity to our municipal clients to come to our classes. We have now had several thousand visits to F&N University by client staff members.”

#### HOW HAS THIS PROCESS CHANGED THE FIRM'S CULTURE?

An energized, strategic culture is one of the strongest generators of momentum for a firm. At a time when businesses across the board are dealing with increasing complexity — navigating a transformed marketplace, building new strategies, retooling the business model for the future, managing risks that didn't exist 10 years ago — a responsive culture gives a firm resiliency and agility. The strategic culture is rooted in the commitment to be a learning organization. Thoughtful planning about what a firm needs in order to create a strategic culture and the strategies it breeds is one of the first essential steps towards reinvention.

“The biggest change we've gone through over time has been in conjunction with a tool we use to analyze our culture, the Competing Values Framework,<sup>2</sup>” said Milrany. “This tool shows you results in the forms of clan, market, hierarchy and adhocracy, and measures respectively, collaboration, competition, control and creation. The first time we ran it, Freese and Nichols rated very high on clan, meaning we had a strong family culture. As a matter of fact, it was too high — we were too internally focused. The world was changing, and we had to become more externally focused and more market-focused. In the old days, work just came in because we were competent and we were local and trusted. As competition grew, we needed to know more about client needs and learn to understand them.

“Using the Competing Values Framework, we assessed what our preferred culture would be: a more market-focused culture. We are still strong on family and clan, but we have become very client-oriented. Our mantra at Freese and Nichols, our Hedgehog Concept, is that we want to be the very best at client service, resulting in long-term, mutually beneficial relationships. Everyone in the world has these things in his or her plan, but who else lives it? Our plan has permeated throughout the firm; even the administrative staff members know who their clients are within the firm and work at providing the best service to them. By the time the Baldrige examiners left, they joked they could not stand to hear one more person talk about Freese and Nichols' Hedgehog Concept.”

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**An energized, strategic culture is one of the strongest generators of momentum for a firm.**

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## THE RESULTS? MEASURABLE VALUE TO THE FIRM

For the past four years, Freese and Nichols has achieved revenue growth between 12% and 16%, outperforming the industry benchmark in 2009 by 10 percentage points.

—Baldrige Performance Excellence Program summary sheet

Few firms showed positive revenue growth during the recession; even fewer of those firms operated within a limited geographic market serving primarily one client type, and even fewer were successful by serving municipalities, which have been hard-hit for tax revenue. By engaging in a structured self-evaluation and revamping of the firm well in advance of the recession, Freese and Nichols not only managed to survive the recession, but also had two of its best years in 2009 and 2010.

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“In a quality-based industry like the AEC industry,” Pence said, “it is difficult to understand why more firms are not engaged in the Baldrige Award process. We hope to give back to other engineering firms the benefit of our experience and help them get started on this path.”

Cindy Milrany agreed and elaborated on the numbers that she sees: “The practical value of the Baldrige award is that we have outperformed the industry average for the past 10 years. Recently we have begun outperforming the top quartile. As we were going through the recession, we grew 15%. The rest of the industry was, for the most part, suffering.”

The firm’s ability to measure and analyze data is also part of the Baldrige criteria. It now has an almost immediate read when a negative variance appears on a project, and the project manager can take corrective steps before the project goes too far over budget to recover. This led the firm to evaluate and change its preparation of project managers for their roles.

## BUILDING A BETTER PROJECT MANAGEMENT SYSTEM

“When I meet CFOs from other firms they laugh at me, because we track so many things they say they couldn’t possibly do it,” said Milrany. “We began to analyze negative variances very closely, and at some point we realized they were tied to our project management practices, or perhaps the lack of them. We did not have a project management certification program; we just promoted people. As the firm started growing and we were adding more project managers all the time, many of them were not prepared to manage.

“Now we have a six-month certification program that teaches everyone the same practices so that we have standardized project management practices across the firm. We have a project management system on our intranet, and project managers must report their negative variances, whether they will recover them, and then how the variance came about: Was it due to a bad fee? Scope creep? Something else?”

“We now have a project management committee to look at how these variances come about and

adjust our project management practices in an ongoing manner, so that we have the best tools for project managers to use to keep their projects on track. They give a report to their clients once a month, and clients find it extremely helpful. We realize they are having tough times and we need to help them.”

The firm also takes advantage of executive development opportunities. Ron Lemons is now the second COO from Freese and Nichols to participate in FMI’s Chief Operating Officers’ forum, a peer group for the development of COOs from engineering and architecture firms.

#### WHAT’S NEXT?

Now that it has won the Baldrige award, what’s next for Freese and Nichols? The current award came in the small business category, and the firm is now restricted from applying again for five years. But it plans to continue with the process based on the feedback report it received: It now has a vision for what they will accomplish in the next five years. When the time comes, the firm expects it will have more than 500 staff members and will be applying in the service category.

What about the cost of all this? The firm feels that its strong financials speak for themselves, and the process has become business as usual.

“After being recognized by the award, we can’t apply again for five years. I’ll be darned if one of our owners didn’t suggest that we could use the money we saved from not chasing the award to do other things in the firm,” said Pence. “I said that the cost was insignificant for the application and the site visit, and that there isn’t much savings, since this is how we conduct our business now.”

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## PREPARING FOR THE FUTURE MARKETPLACE

In the marketplace we face going forward, what worked for firms in the past is not always going to apply in the future. Municipalities across the country are burdened by their funding of entitlements as they also suffer from steeply reduced tax revenue. State and federal agencies lack the funding for overdue

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**In the marketplace we face going forward, what worked for firms in the past is not always going to apply in the future.**

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infrastructure repair and replacement projects. There is no more “business as usual.” Recent moves by the states of Wisconsin, Indiana and Ohio to push back the collective bargaining power of public employees are likely to spread into a battle that will affect the use of revenues and, therefore, the A/E/C industry.

While most firm leaders are well aware that they need to evaluate and adjust firm practices and strategies for the long-term survival of the firm, the difficulty many face right now is how to keep the firm going for the next week, month or year. The beauty

of following a structured outside process like the Baldrige is that it addresses every area of the firm deemed of key importance. Working through the firm’s systems one step at a time and implementing change over the course of years may seem daunting, but look at the results: Freese and Nichols was perfectly positioned not only to survive, but also to thrive during the Great Recession. We know the next economic downturn is out there on the horizon somewhere, and we all know the pace of change in the world will not diminish, nor will global competition for local work go away. How will your firm prepare? ■

*Freese and Nichols is committed to sharing what it has learned with other firms. Freese and Nichols’ Baldrige application will soon be available to the public at the Baldrige website, <http://www.nist.gov/baldrige/>, and the firm would be happy to discuss its continuing journey. Contact Bob Pence, CEO or Cindy Milrany, CFO, at Freese and Nichols, 817.735.7300.*

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<sup>1</sup> The Hedgehog Concept was originated by Jim Collins in his book *Good to Great*. In his book, the hedgehog represents a business that knows what it does best and sticks to it.

<sup>2</sup> The Competing Values Framework is an instrument developed by Jeff DeGraff, Dean of Innovation at the University of Michigan.

### **The Malcolm Baldrige National Quality Award — Process and Criteria**

How does your firm stack up in the areas of leadership, strategic planning, customer focus, measurement and analysis, workforce focus, process management and overall results?

**Quest for Excellence** is an annual conference hosted by the National Institute of Standards and Technology (NIST) that features best performance management practices from the Baldrige Award recipients. For information about the conference, visit:

**[http://www.nist.gov/baldrige/qe/about\\_quest.cfm](http://www.nist.gov/baldrige/qe/about_quest.cfm)**

The official NIST page for the Baldrige Performance Excellence Program is located at:

**<http://www.nist.gov/baldrige/>**

To explore how your firm stacks up today against the Baldrige criteria, use the tools located here:

**<http://www.nist.gov/baldrige/enter/new.cfm>**

To download free PDF files of the appropriate Baldrige criteria for your firm, visit this link:

**<http://www.nist.gov/baldrige/publications/criteria.cfm>**

# The New China: Threat or Opportunity?

Leveraging the best of U.S. capability is the next great challenge for visionary CEOs and could inspire partnerships between competing firms in a new market or with international partners looking to fill a critical niche or service offering.

*By Sabine Hoover and Stephen Boughton*

**T**he dramatic rise of China as a major economic, technological and industrial player on the world stage has enormous and far-reaching implications for global innovation and trade. The world's second-largest economy after the U.S. in 2011, China is poised for prolific growth and accelerated economic restructuring and dedicated to significant research and development in the immediate future.

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Currently the largest owner of foreign exchange reserves, China has worked to embed itself within the global trade sphere since 1978, when the first open-door policies were adopted. It is looking to open up to international opportunity even further. From 1993 to 2010, Chinese companies participated on the acquiring end of 25,284 mergers and acquisitions worth \$969 billion in aggregate,<sup>1</sup> and 2010 was the biggest year yet. Going global is a national mandate that China has taken to heart.

When Zhejiang Geely Holding Co., a rapidly growing Chinese automaker based in Hangzhou, acquired Volvo from Ford Motor Company in 2010 for \$1.8 billion, the Wall Street Journal declared, "Geely's acquisition of the Swedish brand is the latest example of how China's economic rise is reshaping large swaths

of global business. Its huge market and increasingly powerful companies are playing a growing role around the world in industries ranging from cars to natural resources.”<sup>2</sup>

This influence can also be felt in the United States where Chinese companies have made inroads into industries that are a strategic match for China’s strengths. SANY Group Co. Ltd., the largest construction equipment manufacturer in China and one of the top 10 in the world, believes the U.S. is the next clear stepping-stone for growth. Tang Jianguo, president of SANY America, told China Daily in early 2011, “After the company went public in 2003 on the Shanghai Stock Exchange, we entered a new phase of development that required us to explore more resources worldwide. The U.S. is home to the leading heavy equipment manufacturers and it has the best technology, talent and market, and I believe the company can benefit from investments in the U.S.” SANY America plans to invest more than \$100 million to build a 92-hectare factory development in Georgia

(per an agreement with the state government) over the next few years, creating around 600 jobs locally.<sup>3</sup>

The sizable flows of Chinese foreign direct investment (FDI) into U.S. and western interests have unsettled some Western critics. The U.S., long accustomed to looking overseas for opportunities, is not used to being on the sell-side end of the transaction, and demonstrated similar unease during the 1970s when money from Arab oil interests fueled a U.S. buy-up, and the 1980s, when Japanese companies went on an acquisition spree. Some worry that China will be a competitor for business and jobs, while others argue that development in China benefits Western business and consumers. Whatever the outcome,

there is no doubt that change opens the door to new business opportunities as well as novel threats and challenges. In the meantime, it is important to understand the political and economic transformations that are taking place in China and to reflect on possible outcomes and opportunities for the U.S. design and construction industry.

#### CHINA’S NEW FIVE-YEAR PLAN AND WHAT IT MEANS FOR YOU

On March 5, 2011, China’s central government released its 12th Five-Year Plan — a document that will guide China’s national policy through 2015. The five-year plans have been central to the economic development of communist China since the founding of the People’s Republic of China in 1949, and inform all state interests and enterprises, with significant flow-through to global business and trade. Following are some key elements discussed in the plan, which business leaders from around the world should be considering:

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**Whatever the outcome, there is no doubt that change opens the door to new business opportunities as well as novel threats and challenges.**

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### **A greener and cleaner China**

The central government in Beijing considers alternative energy development and environmentally progressive policy integral to the growth and health of its society and economy. Facing the greatest development challenges of any nation — China has the world's largest population and is the largest emitter of greenhouse gases — China's nationwide effort to combat existing pollution and to mitigate future damage to its heavily taxed environment is a matter of national interest. The government also realizes that in a world beset by expensive and diminishing fossil fuels, green and clean technology will be a future moneymaker as well. Consequently, the plan calls for an increase in wind energy to produce 90 gigawatts (GW) of power for the country by 2016. In comparison, the United States, the world leader in wind-power production, currently produces 35 GW of power from wind energy.

Implications for the design and construction industry:

- China is likely to be the fastest-growing market for alternative energy over the next five years and offers many opportunities for companies with a focus on green and clean technology.
- China is aggressively making the necessary investments and laying the policy foundations as it seeks to become the world's leader in the invention, production and deployment of clean energy technologies. In the future, we will likely see Chinese companies bringing this kind of innovation to the U.S. design and construction industry.

### **China's health care evolution**

The five-year plan continues its focus on the health and well-being of the Chinese population. A major objective is to build a modern health care infrastructure to accommodate an aging population as well as growing demand for more comprehensive care. The government will also focus on improving the social safety net, saving Chinese consumers money on health care costs and giving a boost to consumer spending in other areas.

Implications for the design and construction industry:

- China will likely become a top destination for pharmaceutical, biotechnology, medical equipment, eldercare specialist and health care companies across a wide spectrum, offering ample opportunities for design and construction

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**The central government in Beijing considers alternative energy development and environmentally progressive policy integral to the growth and health of its society and economy.**

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firms. On the other side, foreign companies currently invested in the U.S. may decide to shift focus to China altogether where opportunities and demand appear limitless.

- Adoption of advanced and modern design concepts in the field of health care facility design is ongoing in China. Companies with this type of expertise will be in high demand.

### **Rebalancing the economy**

The five-year plan looks to address income inequality across China's population, creating a "balanced economy" and reversing the growing disparity between elite and average wage earners. As part of balancing the economy, the plan also calls for a reduction in the country's dependence on exports and boosting private consumption. China's economic machine has pulled millions out of poverty in the past few decades, but increased real wages will place its "low-cost" manufacturing base in jeopardy. This is a trade-off that China wants to make. As it moves up the value chain and derives more of its wealth from innovation and R&D, the low-margin manufacturing jobs that created the new China will move offshore.

Implications for the design and construction industry:

- Increasing disposable income, a fast-growing elite class and a middle-class population approaching the size of the total population of the United States are the growth many companies are banking on for their own near- and long-term expansion.
- Companies should be tailoring their strategies by individual province to support and invest in the potential of the 900 million Chinese who do not live in the coastal cities.

### **Going global**

As China's economy continues to open up, China's "go out" policy, also known as the "Going Global" strategy, is evolving. In contrast to the past 30 years of reform, which have focused exclusively on bringing foreign capital into the country, China's strategy for the future is to push for the global expansion of Chinese companies, thereby promoting Chinese brands and improving project quality, capabilities and knowledge of foreign markets. Joint ventures and alliances are becoming popular mechanisms for Chinese companies to enter new geographies and market sectors, as opposed to outright acquisitions.

Implications for the design and construction industry:

- Business leaders need to be aware of the shift in China’s “go out” strategy. Chinese outbound investment is not going to stop, but it will not take the same form as in the past.
- The new “go out” strategy may present new opportunities for U.S. design and construction firms to team up with Chinese companies, particularly in the infrastructure and large building sector.

### CHINESE INVESTORS FOCUS ON U.S. OPPORTUNITIES

Sino-American ties have expanded substantially over the last 30 years to become multifaceted and heavily interdependent. Currently the second-largest trading partner with the U.S., China’s economic health is tied to that of America: China is the U.S.’ third-largest export market and single-biggest source of imports. China is also the single-greatest owner of U.S. debt; at the end of December 2010, China’s holdings of long-term U.S. Treasury securities totaled \$1.16 trillion U.S. dollars.<sup>4</sup>

Chinese foreign direct investment in the U.S., however, is in its infancy (\$2.5 billion) in comparison to other traditional investors such as Japan (\$272 billion) and the United Kingdom (\$557 billion).<sup>5</sup> In an interview with FMI, Aaron Brickman, director of Invest in America (part of the U.S. Department of Commerce’s International Trade Administration to promote foreign direct investment to the United States), said, “Chinese companies have only been allowed to invest abroad for a relatively short period of time. Most of these investments have been in natural resources such as raw minerals, agricultural products, etc. — generally not very advanced investments compared to manufacturing or IT. The Chinese are just starting to learn how to invest in the U.S.”

With China’s government encouraging Chinese companies to “go out,” experts predict greater investment by Chinese companies in the U.S. in the future. Brickman adds, “There are huge global Chinese firms, but there are very few of them. They are definitely not the norm. The average Chinese company hasn’t gone global and isn’t thinking of going global. There is a huge learning curve, and firms are looking for success stories and examples for what they can achieve.”

The prospect of investing in the U.S. was also a topic of discussion at the 2011 Davos World Economic Forum, where President Barack Obama and the head of China’s Investment Corporation (CIC), the country’s \$300 billion sovereign-wealth fund, talked about Chinese investment in U.S. infrastructure projects. Transportation and other infrastructure projects appear to represent a convergence between White House and Chinese interests. A push by the Obama Administration for widespread investment in roads, airports and bridges amid record national debt (of which China is the

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**Sino-American ties have expanded substantially over the last 30 years to become multifaceted and heavily interdependent.**

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greatest single owner) and acute budgetary constraints would seem mutually advantageous. However, the prospect of entrusting national security issues to foreign stakeholders has so far proven thorny — an example of the complicated new frontier of incoming FDI. In 2010 prospective investor-company Huawei Technologies Ltd. was diverted from buying into a U.S. telecommunications company. In 2006 similar sentiment prevented a Dubai outfit from investing in five American ports. The U.S.' official stance is to encourage minority stakes in large projects such as these. Mr. Zhou Yuan, head of asset allocation at China Investment Corporation, confirms this approach and says, "We want to emphasize the fact that we are going to be a passive investor. We're not here to run anything or to own anything."<sup>6</sup>

### **BAHA MAR RESORT BACKED BY THE CHINESE — A CASE STUDY**

A recent example of this kind of Chinese business venture is the Baha Mar Resort — a 1,000-acre, \$3.4 billion resort, gaming and entertainment complex in the Caribbean. The project, designed to surpass previous design and construction benchmarks within the hospitality industry, celebrated the commencement of construction in a groundbreaking ceremony on February 21, 2011, and is slated to open in late 2014.

The project has been bankrolled by an alliance consisting of China State Construction Engineering Corp., a state-owned enterprise (SEO) known for the Beijing Olympics "Water Cube" center, and the Export-Import Bank of China, another state-owned enterprise. Though the two have not partnered before, there are many more joint projects in the pipeline. According to Don Robinson, president of Baha Mar, "They (China State Construction) were extremely aggressive about wanting to be in the project. It will help China State Construction prove to the world that they can build a very complex project outside China."<sup>7</sup>

The Baha Mar Resort is one of several major projects that China State Construction recently landed in North America. Other projects include a subway ventilation project worth about \$100 million in New York's Manhattan area and the \$410 million renovation of the Alexander Hamilton Bridge, between Manhattan and the Bronx. In the first three quarters of 2009 alone, the Chinese construction giant signed more than \$2 billion worth of contracts in the U.S. market, successfully paving its way into the North American construction market.

The funding for Baha Mar intrinsically is tipped to benefit Chinese interests: the Export-Import Bank of China will put up a \$2.5 billion loan, leveraged through other Chinese banks, and China State Construction will make a \$150 million equity investment in the project (the rest, \$800 million, comes from Baha Mar). Furthermore, due to the magnitude of the project, China State Construction will supply up to 8,000 Chinese construction workers to build the resort.

When asked what the local reaction in the Bahamas was to plans for Chinese construction workers to be imported for the project, Robinson explained, "I think initially ... there was a lot of suspicion and a lot of discussion in the Bahamas about 'why can't you use all Bahamian construction?' Last summer we did probably 40 or 50 specific sessions with a variety of influential business leaders and explained the sheer magnitude of the construction of the project. Even if we wanted to have all Bahamian construction labor, there is no workforce that's qualified to deliver



this project. We made a decision along with the government to reserve about \$400 million of the project's construction cost for Bahamians. And [to] specifically carve out pieces of the contract that were suitable for local Bahamian contractors that they had the skills to be able to do.”<sup>8</sup>

This kind of undertaking does not happen overnight, though. According to Robinson, it took more than two years for the entire Chinese chain of command to approve the project, after reaching an initial agreement in 2010, and then negotiating with government counterparts in Beijing and the Bahamas for several months to finalize details. China's tight control over the renminbi, the Chinese currency, means that the Chinese government must approve FDI of greater value than \$100 million. “Talks lasted a very long time,” adds Robinson.

#### CHINESE INVESTMENT BRINGS HOPE AS WELL AS ANXIETY

As more Chinese corporations seek to expand their reach globally, there is growing apprehension among Western companies and governments about China's red tape and long, opaque decision-making process. Conversely, Chinese investors have often raised complaints about what they perceive as barriers to investment in the U.S. In 2005 concerns over American energy security thwarted the acquisition of Unocal Corp. by state-owned China National Offshore Oil Corp. (CNOOC). In this case, opponents feared that CNOOC — and indirectly the Chinese government — was trying to secure access to key oil resources, which could threaten America's oil supply in the future. In an interview with FMI, Wayne Morrison, specialist in Asian trade and finance with the Congressional Research Service, explained, “The Chinese have a problem with public relations when it comes to investing in the U.S. There is a lot of fear for the most part that the investment is coming from Chinese state-owned enterprises, which are tied to the government. Therefore, there's this concern that the Chinese government itself is directing the acquisitions of U.S. assets.”

Many also perceive China's investment policy as an attempt to take over foreign companies to gain access to their brand name, technology or know-how to help Chinese firms expand their sales and become more competitive, without really creating more jobs. On the other side, U.S. firms venturing out to China are often concerned about their intellectual property rights as China is notoriously unreliable in protecting intellectual property. Morrison adds, “Bottom line is the

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**As more Chinese corporations seek to expand their reach globally, there is growing apprehension among Western companies and governments about China's red tape and long, opaque decision-making process.**

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U.S. wants Chinese investment, but we don't quite trust them because of China's extensive use of industrial policies and the lack of transparency of Chinese firms that want to invest."

Many of these perceived fears or anxieties may also be a direct result of cultural differences. According to Robinson of Baha Mar, "Working with an Asian or Chinese company is different. The negotiations are different. The style of the negotiations and the time, the relationship building, take much more importance in a Chinese negotiation than they do in a Western negotiation. Western negotiations are 'get to the numbers.' Chinese negotiations are 'let me decide if I like you before I get to the numbers.'"

Watching Chinese companies expand globally is not the only concern some Western business leaders and economists have. Speaking with FMI, Jim Haughey, chief economist at Reed Construction Data, commented, "A big concern in regard to China's impact on the U.S. construction industry is its economy. The Chinese economy can't continue to grow the way it has been during the past decade; it's not sustainable." Haughey's concern is echoed among analysts who worry that the staggering broad money supply in China could lead to additional speculative bubbles and subsequent fallout. Already, we have seen over speculation in housing and lending. If the central bank decides to tamp down on investment by raising interest rates, investment sprees could be interrupted. While a Chinese

economic crisis would be a serious event in a world in which Beijing runs the second-largest economy, the economy is robust right now, with the Chinese government retaining a tight control over investor behavior compared to deregulated countries like the U.S., and a more modest investment slowdown is the more likely scenario.

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**Theoretically, China's growing economic influence should benefit everyone: In an interconnected world, growing trade creates jobs and money everywhere.**

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#### SEA CHANGE

Theoretically, China's growing economic influence should benefit everyone: In an interconnected world, growing trade creates jobs and money everywhere. "China is extremely important, no doubt about it. And over all, the more important China becomes, the better it is for the American economy," says Scott

Kennedy, head of the Research Center for Chinese Politics and Business at Indiana University.<sup>9</sup> While China has made amazing leaps forward mobilizing as a centrally controlled force, the future will require greater innovation and collaboration to meet population demands — requiring a loosening of trade regulations and greater autonomy. For this reason, foreign firms with specialized talents and new ideas will be sought by Chinese companies looking to compete on a world stage.

Further, the gap between China's few mega-firms — essentially government subdivisions — and thousands of small, obscure firms is wide, leaving room for intermediate players from abroad to seek opportunities and partnerships.

At the same time, China's pursuit of efficiency gains and high productivity on projects of a scale rarely seen outside the country provides a vast learning ground for U.S. companies willing to make the leap. Certainly, with 20% of the total human population, China will need the world's best and brightest to contribute ideas and talent to future developments. Although China's meteoric rise can seem threatening to smaller outfits, the U.S. had the 20th century as a head start and remains the largest economy, at least in 2011. U.S. companies, design, equipment and processes are at the forefront of world operations. Leveraging the best of U.S. capability is the next great challenge for visionary CEOs and could inspire partnerships between competing firms in a new market or with international partners looking to fill a critical niche or service offering. China also presents a new, barely tapped funding resource, and one for which relationships built now may prove crucial in the future — industrious firms are already courting investors. Lastly, China, the new frontier, presents a holistic sea change for an industry still reeling from the 2008 recession. Whether you view it as a threat or opportunity is entirely up to you. ■

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# Ten Thousand Shades of Gray: Federal Workforce Regulations

Compliance requires the immediate and focused attention of federal contractors, but it does not have to be costly or time-consuming.

*By Doug Mitchell*

**W**ith nearly 20 years of construction business savvy under his belt, Projects Engineer Mark Freier had never heard of a federal agency auditing a highway contractor — until the day his company received a letter from the Chicago office of the U.S. Department of Labor.

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Requesting what Freier calls a “litany of information” on his employer’s hiring practices, the correspondence appeared to be nothing more than a form letter. And because Freier believed that only the state Department of Transportation administered equal employment opportunity (EEO) and affirmative action (AA) plans, he ignored the request.

Then came the certified letter. After a bit of research, Freier began to understand that his company — a 50-year-old road and bridge contractor new to federal stimulus-funded projects — was indeed responsible for reporting to the U.S. Department of Labor.

“You may be good with the DOT,” says Freier, “but the feds trump.”

What followed was a time-intensive collection of data and documentation as well as an in-person visit from a Chicago-based Office of Federal Contract Compliance Programs (OFCCP) auditor who spent a full day examining paperwork and employee files and a second full day on the job site interviewing employees.

A few weeks after the audit, Freier received a letter that included notification

of seven violations and a conciliation agreement awaiting a signature. Freier was shocked, having always achieved compliance with workforce regulations throughout his years with the company. The problem, he says, was in the interpretation of the rules.

“The rules are written in ‘federal chapter speak,’” says Freier.

“Contractors have to know how to read between the lines.”

In addition to rectifying the violations, the company is now required to submit two different reports annually, showing that the changes have been made and that the company is continuing to comply with the terms of its federal contracts.

Summing it up, Freier says, “It’s been an ordeal.”

## IN HOT PURSUIT

The OFCCP explains what it regulates.

*The OFCCP administers and enforces three legal authorities that require equal employment opportunity:*

- *Executive Order 11246, as amended*
- *Section 503 of the Rehabilitation Act of 1973, as amended*
- *Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, 38 U.S.C. 4212*

*Taken together, these laws prohibit discrimination and require federal contractors and subcontractors to take affirmative action to ensure that all individuals have an equal opportunity for employment, without regard to race, color, religion, sex, national origin, disability or status as a Vietnam-era or special disabled veteran.*

Simply put, the agency works to ensure that the federal contractor community — companies (and their subs) that have been provided government contracts — is following EEO- and AA-mandated laws and regulations.

If the OFCCP keeps its promise, Freier will not be the only contractor to face down an expensive audit — not by a long shot. Announcing in 2010 that it would increase enforcement efforts, the OFCCP appears to be in hot pursuit of compliance among federal contractors and their subs.<sup>1</sup>

## THE OFCCP'S FULL-SCALE, AGGRESSIVE POSTURE

An examination of the funding received by the OFCCP over the past several years hints at the increased value the federal government has placed on workforce compliance. Between 2003 and 2010, OFCCP appropriations increased 35% to more than \$105 million in 2010.<sup>2</sup> For fiscal year 2012, the agency has requested a little more than \$109 million.<sup>3</sup>

Some believe the stepped-up enforcement comes from pressure to prove the return on investment of federal stimulus dollars. Voters are becoming increasingly vocal with their curiosity about the results. Has stimulus money really put Americans back to work? And if so, how many? To report these figures accurately, the U.S. Department of Labor must really dig in, putting federal contractors and their subs in the hot seat.

The OFCCP, taking what it calls a “new enforcement posture,” committed to “full-scale, aggressive enforcement efforts” in its FY2011 Congressional Budget Justification, stating that its future plans represent “a significant shift from the enforcement strategy utilized during the past several years.”

The document went on to outline how the OFCCP would broaden its efforts to target what it believes to be individual and systemic discrimination suffered by two specific groups.

“We are renewing our commitment to strengthening affirmative action, combating discrimination against veterans and individuals with disabilities ...” the FY2011 Congressional Budget Justification reads.

Just released, the FY2012 Congressional Budget Justification summarized the previous year by listing the OFCCP’s accomplishments, namely that it “initiated more on-site investigations” and hired more than 200 compliance officers to conduct “more comprehensive compliance evaluations and increase enforcement efforts.”

The document names pay equity as a top priority for fiscal year 2012, citing specifically the inequality of pay among men and women. Federal contractors should also note that the agency is taking aim at job classifications in the coming year. In particular, it has committed to expanding investigations into the potential misclassification of workers as independent contractors.

#### **BLACK AND WHITE, YET GRAY ALL OVER**

Like many contractors in Mark Freier’s position, 99% of their day is spent managing business operations, leaving minimal time to follow the ebbs and flows of workforce regulations. The ability to lean on compliance consultants can be the key to surviving what may be considered the inevitable OFCCP audit.

Beyond simply keeping up on the laws, experts like those at HudsonMann, an affirmative action planning and OFCCP audit support firm, have experience interpreting them. “The regulations themselves are very clear, written in black and white,” says Neil Dickinson, managing partner of HudsonMann. “Where the gray area comes in is during enforcement.”

According to Dickinson, enforcement in one region of the country may be

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**The ability to lean on compliance consultants can be the key to surviving what may be considered the inevitable OFCCP audit.**

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very different from that in another, simply because of special areas of focus. This can be particularly challenging for federal contractors who do business in different states. Just when they begin to understand how to satisfy a compliance officer in one region, they learn that a colleague on the other side of the country must meet an entirely different set of documentation requirements.

It is the job of folks like Dickinson to be on top of these inconsistencies as well as the special areas of focus among the regions. “What may have been a focus two years ago may not be today,” says Dickinson. For instance, Dickinson explains that compensation recently became a priority for the OFCCP, which created an entire division to look at salaries and wages and to run an analysis to look for internal discrimination. This opens federal contractors up to potential monetary liability in the form of back-pay penalties.

What’s more, Dickinson’s team has observed efforts to ensure that nonprotected employee classes, namely male and nonminority workers, are not also being discriminated against. While this does, of course, create a more fair system, it could potentially double the amount of compliance documentation an enforcement officer may request.

Beyond working directly with consultants like those found at HudsonMann, federal contractors can keep up on these unique characteristics and focus points by

becoming involved in local industry liaison groups (ILGs). These groups work to educate federal contractors on EEO and AA developments as well as any relevant regulatory changes.

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**Of course, an audit is time-consuming and potentially expensive if fines, back pay or, worse yet, disbarment from the federal jobs bid process is mandated.**

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#### **COSTS GO BEYOND HOURS**

Of course, an audit is time-consuming and potentially expensive if fines, back pay or, worse yet, disbarment from the federal jobs bid process is mandated. However, a company must also consider reputation management consequences.

In the summer of 2010, the U.S. Department of Labor launched a public-facing website, allowing anyone to see which companies have landed on the OFCCP’s radar.<sup>4</sup> If a business is sent a compliance notice, a financial agreement or a conciliation agreement,

it is named on the site, raising questions about the contractor’s ability to follow federal contract guidelines. This is not exactly the kind of background information a contractor will want new clients digging up on the Internet.

#### **THE KEY WORD IS ‘ACTION’**

“Affirmative action” has become such a buzz term that many people have lost sight of its original purpose, which was to ensure that companies make a proactive

effort (i.e., take affirmative action) to include minority populations in all employment opportunities. And that is precisely what today's federal (and state) compliance officers want to see — a proactive and good faith effort to attract and retain a diverse workforce. What this does is prevent a company executive from shrugging off his responsibilities by saying simply, "I couldn't hire a woman for the position because no female applicants came forward."

Compliance Officer Jim Kelly of the Iowa Department of Transportation explains. "Often contractors will explain a lack of recruitment effort by saying they don't have a problem finding laborers. The problem with this may be that only males are applying. That is when I have to remind them that they are required to create a flow of diverse applicants. And you have to show this through a fully documented good-faith recruitment effort."

A company's compliance effort only counts if it is defensible. In other words, a contractor can be following the rules 'to a T,' but if he cannot prove it, the company is at risk.

Take for instance a federal contractor that received several applications from veteran jobseekers for one open position. Because none of the applicants was qualified, the company filled the spot with a qualified, nonveteran jobseeker.

In this particular case, the OFCCP would not require the federal contractor to add an unqualified worker to its crew. What its compliance officers would require, however, is the evidence to support the decision to bypass the veteran applicants was based on a lack of qualifications, not on discrimination.

## SOLUTIONS

According to HudsonMann's Dickinson, OFCCP auditors are consistent in their demand for rationale. "A contractor must be able to defend every single personnel action," he says. "Documentation is key."

The OFCCP has promised a renewed vigor to collecting supporting documentation. "Since federal contractors are obligated to self-audit and correct identified problems, OFCCP will dedicate additional resources to increase monitoring of this element of compliance," reads the FY2011 Congressional Budget Justification.

In fact, as recently as February 2011, the OFCCP named "recordkeeping deficiencies" as an indicator of discrimination for officers conducting AA-plan audits.<sup>5</sup>

"Good record-keeping is the closest thing to bulletproofing yourself," says Dickinson. "It's no longer those who discriminate that get into trouble. It's those who look like they are discriminating simply because they don't have proof to the contrary."

The good news for busy contractors is that there are programs such as BirdDog's Candidate Acquisition and Management System (CAMS), built for



logging and archiving this evidence (see Sidebar). Systems such as these allow hiring managers to document precisely why a candidate was not a good fit for an open position. It then archives this proof so that it can be called up immediately during an audit. In addition, employers can easily sort through applications to identify the best candidates for any position that opens.

### **EVEN THE FEDS ARE GOING DIGITAL**

Per the OFCCP's budget justification, the agency is developing an electronic delivery system that will require federal contractors to submit EEO, hiring and promotion activities and compensation information online via a secure website.<sup>6</sup> Called the Federal Contractor Compliance System (FCCS), the Web portal's development seems to forecast what many believe to be an inevitable digital documentation mandate.

### **IN CLOSING**

Even compliance officers understand that following the rules is inherently difficult for many federal contractors who need to turn a profit to remain in business. Iowa DOT's Jim Kelly states, "It doesn't matter if they're citizen of the

#### **BirdDog's CAMS**

BirdDog's CAMS gives federal contractors access to a suite of tools from one simple online dashboard. Hiring managers log in to the Web portal to post jobs to a family of niche job boards. In order to meet the OFCCP's requirement to "demonstrate a good-faith effort to attract a diverse workforce," CAMS allows the job poster to select from a list of diversity workforce resources already integrated for immediate cross-posting and notification.

The OFCCP demands that federal contractors actively reach out to diversity audiences with job openings. Many state DOTs will provide a diversity list as a starting point for contractors, but this is only the beginning. CAMS has a "Diversity Outreach List" function that enables contractors to develop and maintain its own list of diversity resources.

It is the contractor's responsibility to ensure that these lists are updated and that notices of job openings are reaching the target audience and actually being opened. To help in this effort, CAMS confirms automatically when a job posting has been opened by the authority at the targeted diversity resource.

Of course, BirdDog understands that a job description and advertising of an open position is only half the compliance battle. The OFCCP and others that may be evaluating a company's performance will want to see documentation of the applications received, how they were scored, what happened next, and how the final candidate was chosen. CAMS allows for all of this.

Users manage submitted applications by scoring them, assigning next activities and reporting on the candidate pool. What's more, the system keeps track of how many of these candidates came from diversity resources, how many of them were deemed qualified (and the reasons why or why not), as well as how many were hired. Ultimately, CAMS makes the hiring "paper trail" completely paperless.

HudsonMann consultants recommend that contractors run their own reports frequently, as if they were being audited, to see if they can identify applicant groups that may be underrepresented in their hiring efforts. The next step, of course, is to correct those missteps — and to document the findings, the intention to correct and the steps taken to get closer to compliance.

year. If they don't make a profit, they don't stay in business. So [reading the contract paperwork] isn't a priority."

Understanding, however, does not mean a compliance officer will look the other way. At the end of the day, it is the job of the OFCCP and state regulators to ensure federal contractors are contributing to a fair workplace.

Among contractors, there is a misconception that OFCCP audits are few and far between or that only those named in complaints must undergo a compliance evaluation. Neither of these urban myths should be a comfort to any federal contractor or to a federal contractor's subs, for that matter.

The simple fact is that OFCCP audits are increasing. Pressure from American voters, new OFCCP leadership and a renewed, countrywide attention to employment issues of all kinds have combined to make following the rules — and documenting every step along the way — more important than ever.

Compliance requires the immediate and focused attention of federal contractors, but it does not have to be costly or time-consuming. With the right set of tools and the right team of trusted advisors, contractors can focus less on the type of worker they employ and more on the type of work they produce. ■

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**Compliance requires the immediate and focused attention of federal contractors, but it does not have to be costly or time-consuming.**

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**Doug Mitchell** joined BirdDog as vice president of Marketing in 2010. Prior to joining BirdDog, Doug spent 13 years in various marketing roles. He has also been heavily involved in start-up and early-stage business development, including the growth of his own virtual multimedia agency, which he sold upon joining BirdDog. In February 2011, Doug released his first book, *"The MultiThread Marketer."*

<sup>1</sup> "All that money, all those woes," *Des Moines Business Record*, March 4, 2011

<sup>2</sup> FY 2011 Congressional Budget Justification, OFCCP

<sup>3</sup> FY 2012 Congressional Budget Justification, OFCCP

<sup>4</sup> "New DOL Website Shows OFCCP Enforcement Statistics," *Affirmative Action News*, May 4, 2010

<sup>5</sup> Active Case Enforcement FAQs, OFCCP

<sup>6</sup> FY 2012 Congressional Budget Justification, OFCCP

# Information Systems: The Next Seven Years

Ensuring the investments in technology and systems align with the objectives and strategic needs of the business is one of the top priorities for senior management.

*By Christian Burger*

**L**ooking back into the 2000s or even the 1990s, we have seen solutions come and go, new technologies emerge that fundamentally changed the way we have worked, and systems evolve that perhaps allowed some projects to be built that would not have otherwise been possible. However, the prior two decades were also largely focused on departmental solutions and technologies (e.g., estimating/bidding, accounting and project management). Some companies were successful in integrating these disparate solutions, but many organizations simply allowed them to operate within the departments from which they originated.

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The construction industry, like many other industry sectors, has been at the forefront of a tremendous shift over the last 20 years. Any time you have developing systems and new adoption, you are bound to have mistakes, missteps and missed opportunities. That has certainly been the case over this time frame for contracting businesses. Most contracting companies originally chose to house all solutions

and data within their own offices; only a brave few tried outsourcing or co-location options. IT staffing, to support all of this technology, shifted in predictable ways. At the end of the day, many contractors spent more and achieved less than they ultimately hoped or expected.

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## Most of us wouldn't build and operate our own electricity generating facility. Why should we build and operate our own data center?

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At the same time, even with all of this frustration, hype and changing direction, every department in construction companies has benefited tremendously from advances in technology. Most contracting organizations no longer do payroll manually or write checks from a checkbook. They do not keep manual cost ledgers for jobs or communicate through letters or faxes.

This article provides a longer lens into the next seven or so years, examining technology trends that are already under way or that are bound to occur based on current position and direction. Product names are excluded, for the most part, because it is difficult to know who will emerge in a given

area, but product classes are referred to throughout. Some of the trends are more likely, as they are already here or will arrive soon. Those are easier to plan for. Other trends are further out and less certain, but contractors should remain aware of them, even if just to watch for significant developments that might affect their planning.

The organization of the article is also intentional, with more foundational technology (i.e., servers, email, etc.) addressed earlier and BIM (building information modeling) and other application solutions covered later.

### INFRASTRUCTURE

If there is a term we may tire of in the next few years it is “cloud” or “cloud computing.” By the end of this decade, it is possible, perhaps even likely, that the average construction business will not have a data center within its own four walls. So if you have one drawn up and builders ready to start, consider canceling the contract. Cloud and co-location, as it is sometimes called, approaches to data centers are likely to diminish the requirement to build your own and could actually provide you with better service for less money.

The days of needing your own data center could be drawing to a close. There are some important considerations here, depending on your philosophy and risk tolerance, but cloud computing and co-locating get the contractor out of the computing infrastructure management business. Most of us wouldn't build and operate our own electricity generating facility. Why should we build and operate our own data center?

Email is common to everyone and a simple example to differentiate the options. The traditional approach is to have your own email server that is probably

dedicated to email and running Microsoft Exchange. It is connected to the Internet and stores everyone's email inbox and calendar. Once established, this is not an expensive approach, but the cost to get up and running is sometimes high.

Now, if you choose to move that server and software to an off-site data center that has rack space in a large room reserved for you, you are co-locating. The advantage here is that, in all likelihood, that data center is better equipped and managed and more secure than your own data center or IT closet. You are still responsible for the Exchange licenses, but power, Internet access, bandwidth security and backup are no longer your concern. Contrast that with a cloud approach: An external company with an Exchange license and plenty of storage hosts email for you for a fixed fee per user per month. You do not really know where that server is located and probably do not care, just like Gmail but with a fee and your domain name. The company has provided you with a service and charged accordingly.

Some companies prefer to maintain their systems and data inside their own four walls rather than outside. Organizations may have security concerns, while others want to retain control of the environment so they will not be down on "bid day." This desire for self-control will pass over time, but should not be disregarded in a haste to keep up with the market. In addition, some companies have an investment in Exchange already and may not want to walk away from that to a "cloud" environment.

Generally, the primary advantage of cloud computing and co-locating is scalability and security. It would be costly to replicate the level of data center some of these companies offer in terms of redundant power, fail-over servers and network monitoring. In these environments, you can go from 20 users to 200 and back down to 50, usually without penalty. This is not so if you are licensing the software yourself and self-hosting.

#### IT STAFFING

Today's IT department does not look drastically different than it did five or even 10 years ago, at least at many smaller and mid-sized companies. The skills required are somewhat different, and some construction businesses have invested in people with specialized skills, like .net development or report writing. However, the departments are generally different than they were 20 years ago, when most of the IT staff focused on servers, infrastructure and some level of programming or maintenance.

Today, there are simply too many specific pieces of technology and issues for one or two people to be adequately capable in all areas. Contractors (except for the very large) cannot afford to have one person on staff for each special skill set. For this reason, construction companies increasingly seem to be outsourcing

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**Generally, the primary advantage of cloud computing and co-locating is scalability and security.**

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and/or contracting for these positions and having in-house talent work on more strategic initiatives and making better use of software applications. This new shift can also mean more work with the user community than with the gear itself, so people skills are becoming more important.

Finally, while most construction companies cannot yet afford their own CIO (chief information officer), they do recognize the value of such a position on an occasional basis and are contracting for part-time CIO expertise. Doing so may ensure continuity of the IT strategy and alignment of that strategy with the business objectives and resources available without a full-time commitment.

## ERP

The accounting system, now frequently called ERP (enterprise resource planning), a holdover term from manufacturing, has undergone considerable change in the last 10 years and is likely to change even more in the next 10. The developers of these applications are being driven by both their customers and by the suppliers of their development platforms, be it Microsoft or Oracle.

The two biggest developments have been the addition of important support applications like project management and human resources to the core accounting applications and changes in platform from Windows-based to .net and Web-based architectures. This latter change has given ERP developers certain advantages over older tools and platforms, while also awarding customers flexibility and power they did not have before.

It is possible some ERP developers will spend considerable energy trying to develop and deploy ECM (enterprise content management — see the next section for a full description) technology within the ERP platform as well and will meet with a degree of success. However, once ECM solutions are fully understood and begin to mature, it is unlikely that the ERP vendor community will be able to keep pace with the dedicated third-party solutions that have dozens of developers working on that solution. It is a rather complex matter and goes well beyond invoice routing and approval, where ECM got started in this industry 20 years ago.

The other development that the ERP vendors are going to have to contend with in a more holistic manner is integration. There are more and more impressive “point solutions” (e.g., payment portal, project management, service management) in the market attracting customers. These need varying degrees of integration with the ERP applications, and point-solutions vendors are working to develop them. This will put increased pressure on ERP developers to provide small programs to handle the import of data (sometimes called APIs, or application

program interfaces) into their products. This could ultimately lead to more of a best-in-class architecture than the compromise all-in-one strategy we have today.

## ECM

Enterprise content management is the label given to software and hardware that organize and manage all documents and records within a business. Imagine a very intelligent electronic net cast over all of your organization's data, records, forms, photos, drawings, email and even voicemail. This net would not only allow you to store these files easily, but would also let you find items quickly and ultimately get rid of these records when you no longer need them. Additionally, this technology also would have work flow functionality built in, which would allow the organization to develop more process-oriented solutions that involve review, approvals and posting.

ECM is the sleeper application that people are not talking about because it is a little difficult to grasp beyond a certain level. Most organizations have become ensnared in the idea that each software application should be the keeper of all data and records during and after processing. While true to an extent, there comes a time when certain records either need to get beyond their native system (e.g., estimating or human resources) or be saved and secured past the timeline of the application. Companies currently have documents and records stored in at least a half-dozen places, including file folders, network servers, flash drives, Internet applications, local (laptop) drives and email inboxes. Those are the obvious ones. Searching for critical documents two and three years later can be an expensive, frustrating and risky proposition.

ECM's role is to create a single, structured, safe environment for all documents and records to be retained and ultimately destroyed when the expiration dates arrive.

## BIM

One of the most talked-about trends now, which will continue for quite some time, is BIM, or building information modeling. This technology may have emerged some years ago with the move to 3-D modeling from products like AutoCAD and Bentley. From there, the data from the model was broken out and used by other products for functions like estimating, scheduling, energy modeling and clash detection. The building model has not really stabilized at this point, as it is enriched every year by new systems that use the data but also add something new or unique.

At present, most of the more mature systems (e.g., estimating or scheduling) get data downloaded from the BIM model, but do not really interact with the model in a dynamic manner. New systems, designed specifically to work with

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**One of the most talked-about trends now, which will continue for quite some time, is BIM, or building information modeling.**

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the model, like conceptual estimating or energy analysis, have taken to either developing direct interfaces to the model or using some third-party bridging software that manages the data interchange.

## BUSINESS INTELLIGENCE

BI, or business intelligence, is also a logical and natural direction for enterprise business systems that has been developing over time and is now positioned to catch on to a greater extent in the construction industry. While the phrase “business intelligence” does not really explain the concept, it is the pervasive term applied to the aggregating and reporting of information from many different

systems within an organization, delivered specifically to the users that need particular data on a regular or ad hoc basis.

Most industries started with each primary software system (e.g., ERP, human resources, project management) having its own proprietary report-writing tools heavily embedded and dependent on the internal data sets. Then software developers began building reports and providing access to data using industry standard report-writing tools like Crystal or MS-SSRS. As system vendors have transitioned to relational database design and providing greater access to the data, contractors have benefited by being able to develop their own reports as needed and not having to pay the vendor to develop something custom.

The limitation that still exists for many systems is that reports are only coming from a single system and are

fairly static. They also have to be run and read in order to deliver value. With a business intelligence approach, each person who fulfills a role can have a menu or dashboard of commonly used reports or metrics displayed. In addition, the data can be delivered in a preformatted condition ready for Excel or other user-reporting tools. The reports can contain data from multiple systems, not just a single database. Finally, the BI dashboard can include work flow requirements from the ECM system and/or automatic alerts if specific data conditions are met.

At a higher level, if you look at all of the systems at work in a typical business (See Exhibit 1), there used to be much more “open space” between applications. In other words, each application was an island unto itself with its own database, reporting tools, server and security. But now, as the applications have matured and grown out, the enterprise is crowded with more overlap of functions and data (See Exhibit 2). A company now must think more broadly about its overall IT strategy

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to avoid application overlap, gaps or, worse, different people doing the same function on different systems. The situation should also result in a decrease of the overall dependence on spreadsheets as the systems and processes come together.

What also is made clear in the diagrams below is the critical dependence on the company's computing infrastructure. If any of the infrastructure components fail, it could cause considerable lost time for individuals, groups or the entire

Exhibit 1  
**Systems at Work in a Typical Business**

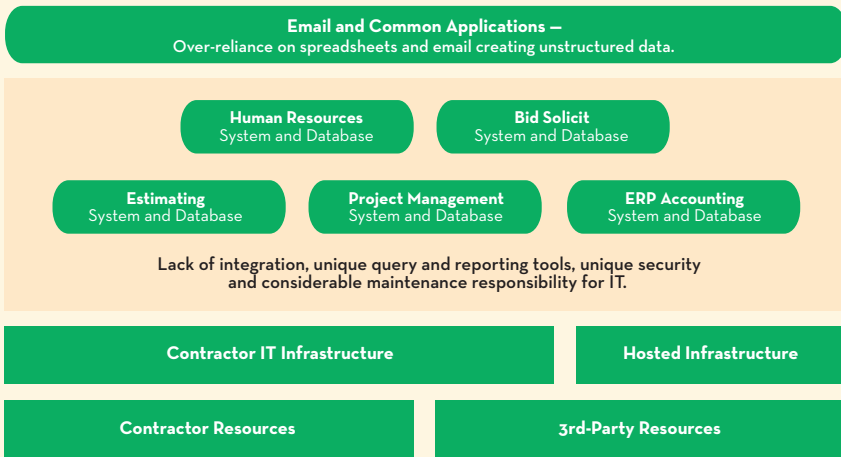
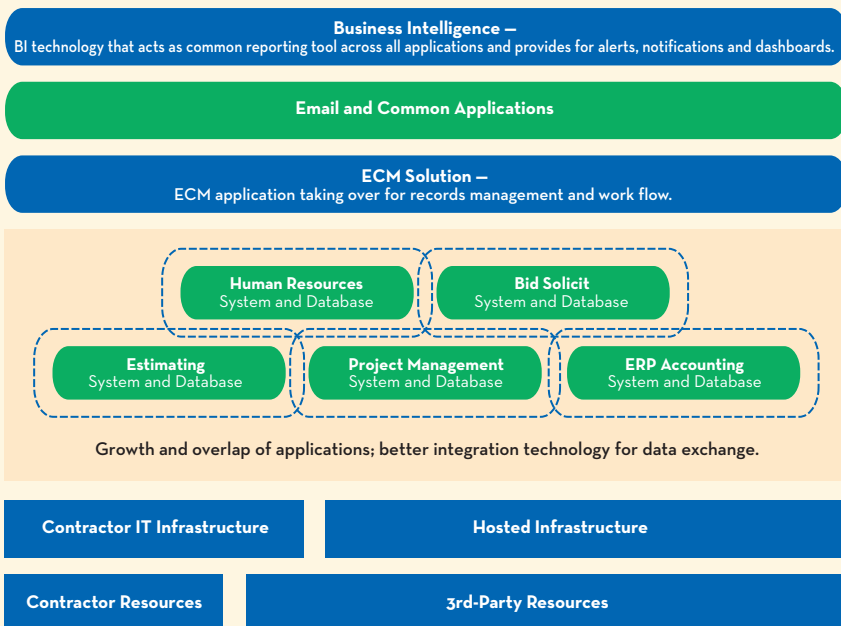


Exhibit 2  
**ECM Solution**



organization while repairs are made and the systems are brought back up. While infrastructure is perhaps the least understood aspect of the overall IT resource, at least outside of IT, it is perhaps one of the most important in terms of need for stability and performance. This is one of the reasons companies are deciding to depend more fully on outsourced or hosted solutions and use internal IT resources in a more specialized and high-value manner.

### THE JOB SITE

Without question, the field is coming online to a much greater extent than ever before. Supervisors and superintendents are becoming more comfortable with technology, and many have laptops or at least a workstation in the job trailer. In addition, technology is being applied to equipment, tools and other resources on-site. The bandwidth requirements to and from the job site will soon be three to four times greater than they are now.

Pieces of heavy equipment with telemetric devices that send operating data back to a hub or main system are commonplace today, though still expensive. Prices will come down, as they always tend to do. Other GIS (geographic information system) data coming from systems like Carlson or Trimble will go to machine-control systems that provide stakeless grading and more accurate grading. GPS systems on equipment are also providing invisible fences around job sites, as equipment cannot leave the perimeter without alerting someone.

Time-capture and employee-verification technologies are also moving quickly and increasingly being adopted to improve the efficiency of the time-card process and to reduce the “buddy punching” issue. In fact, many owners now are insisting on some level of employee verification via signature or biometric device.

### A WORD ON IT PLANNING

Management is becoming more sophisticated and more demanding relative to its expectations of technology and the investments made. This will continue into the decade and is likely only to increase. Ensuring the investments in technology and systems align with the objectives and strategic needs of the business is one of the top priorities for senior management. This typically has not been the case, because the senior IT person in most construction companies has not been part of the senior management team. This fact, while not unusual in construction, is unusual

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in other technology-dependent businesses. The 2000s were generally a period of putting in new systems and implementing some of them simply because one group of users in the company or another was asking. Organizations were alternating between keeping up with a perception of what the market was doing and trying to stay current.

### MOVING FORWARD

There are many significant and disruptive trends occurring now that will continue to develop over the next several years. Keeping up with all of that change is expensive and difficult. A company should establish a position it is comfortable with, say “early adopter” or “close follower,” and then make the investments necessary to attain that position and maintain it. Moving from a position of tech laggard to early adopter and then to close follower is difficult, confusing and expensive. Management and the IT manager should be able to articulate the strategy and the key objectives relative to technology, and those goals should be revisited annually. The business plan and direction may have changed slightly or substantially, and certainly the innovations in technology will have changed as well.

In closing, it is important that IT management stay current with developments on the outside, so a small but dependable R&D budget should be available for employees to attend conferences, become members of a peer group and test products on a limited basis. ■

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# Future Strategies: Part 2 — Research and Idea Generation

The firm must embody its thoughts (vision, direction, strategy) into words that evoke emotions in order to draw people into action.

*By Steven J. Isaacs and Karen L. Newcombe*

**S**ince the first article in this series was published, an earthquake, tsunami and nuclear plant failure have effectively crippled the world's third-largest economy, Japan. The self-immolation of Tunisian greengrocer Mohamed Bouazizi to protest constant police interference with his street vendor business has turned into revolution in Tunisia, Egypt and Libya, and continuing unrest across the Middle East. None of these events was on anyone's list of predictions for 2011.

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These events are having worldwide impacts on energy — increased instability in already-volatile oil prices and the almost-certain removal of nuclear power from the world's menu of potential energy options for the near future.

When faced with uncertainty, our reactions can sometimes mimic panic. We may freeze in indecision or charge off in random directions, hoping any decision will be better than none. Both of these choices ignore the middle ground — reflection on the questions that can shed light and guide us through the ambiguity:

- What are our values?
- What does each of us in the firm hold as our passions?
- How can the firm reflect those passions in our work?

The first article in this series (*FMI Quarterly*, 2011 Issue 2) focused on the necessity of defining and asking the right and often difficult questions as the firm designs or adjusts its strategy.

In our conversations with design firm CEOs during the first quarter of 2011, many of these leaders said that in reaction to the current climate of uncertainty, their firms were temporarily shifting from a five- or 10-year plan to a shorter strategy adjustment period, anywhere from three years to month-to-month. Several firms have put strategic planning on hold entirely, citing the need for their particular markets to stabilize before any planning is possible.

Whether your firm is building a new long-range plan or tweaking a short-term strategy for the next few months, robust strategic planning should create clarity from a set of complex data and emotions. It should focus on human values — we are creating workplaces for people, environments for human and natural communities, and vehicles for the expression of the firm leaders' personal passions. Planners should collaborate across boundaries, including a range of people within the firm and the input of clients, so that all have a stake in the plan's success. Plans should be biased towards action. If execution is the hardest part of most strategic plans, then build action into it from the start. The planning process should be mindful, not a rote exercise.

#### ALTERNATIVES FOR CREATING STRATEGIES PROS/CONS

Firms have a range of ways to get to the future. Many firms feel that they are already comfortable with existing knowledge of their markets, competitors and clients, and gravitate towards a more typical strategic planning process. While it

feels safe, this is an increasingly risky direction to take, making the first decision in the strategic planning process a choice about how it will be accomplished. There is a larger diversity of options available to us today and numerous points of view about how to design a process for strategy.

Everyone plans differently — no single process works for every firm, so all planning efforts must be keyed to the firm's particular situation. At one extreme is the firm that does no strategic planning. Often such a firm is the brainchild of a strong entrepreneur who has a clear, personal vision of the company's direction and future and the charismatic leadership abilities to drive the firm forward. Firms that choose this option may choose to put

their energy into research and development, constantly seeking new products and innovations that will put them at the forefront. The obvious question attendant to this choice is, "What happens when the visionary ultimately leaves the firm?"

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Will a successor be able to maintain the firm's drive with fresh energy and ideas?

The other extreme is the firm with a directed, ongoing strategic planning process that truly is a process — updated and adjusted on a continuous, almost daily, basis and implemented by every person in the firm, not just the leadership team. This kind of process allows great flexibility in responding to changing conditions, but the goal and vision must be thoroughly clear to all implementing it, to prevent them from being drawn in multiple directions.

In the middle are the two most widely used methods: the traditional planning effort by the leadership team during the annual retreat and the democratic process involving many participants across the firm. The former is still the most widely used today, so familiarity makes for a smooth process, but one that may be prone to following old habits and taking a checklist approach ... “Did we write a new strategic plan this year?” “Check — retreat's over, let's get back to our real work.” The democratic process brings in a diversity of viewpoints but is prone to groupthink if participants fear offending the leaders/boss/teammates. The goal is to achieve buy-in, but the result can be institutionalized mediocrity with all the passion drained out of it.

Strategy must reflect the passions of the firm's leaders, and the firm's practices must bring those passions to action. Actions are based on emotions that in turn are based on thoughts. The firm must embody its thoughts (vision, direction, strategy) into words that evoke emotions in order to draw people into action.

Leaders need to create a constant sense of the organization as an entity, what its goals are, how they will be accomplished, and what each person's place is in accomplishing them. Everyone in the organization should be able to explain what the organization is doing and why, and should be able to do so without having to think it through or look it up. Your employees may not be able to rattle off your company's mission, but it is nearly certain that they know this familiar phrase: “A computer on every desk and in every home.” Do your employees know more about Microsoft's strategic mission — and their part in it as consumers — than they do about their own role in implementing your firm's direction?

Leaders need to convey their connectedness to every person in the organization, the power of their vision, their core values (as well as the firm's) and the cohesion within the leadership team and between the leaders and the rank and file — all of which help get the power of individual activity going in a positive direction. For a real-life example of how one successful firm is doing this, please refer to our

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One of the best ways to ensure that human values are reflected in your strategic plan is to broaden the input by involving more stakeholders.

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article: Firmwide Quality: The Business Case for Pursuing the Highest Standards (*FMI Quarterly*, 2011, Issue 3.)

#### WHO SHOULD BE INVOLVED?

One of the basic characteristics of architecture and engineering is a focus on human values — serving people, communities and the environment they inhabit. One of the best ways to ensure that human values are reflected in your strategic plan is to broaden the input by involving more stakeholders.

Firm leaders today are taking advantage of the range of ideas available when a diverse group of people is invited into the strategic planning

process. One question for firm leaders today is whether their youngest staff members, in possession of considerable technological prowess and who have grown up in a world of instantly accessible information and ideas, can help design the firm's process in new ways. A 25-year-old may be able to access many creative ideas from around his or her network that could be useful; in essence, "I'll ask my friends." An eclectic mix of experiences, backgrounds, ideas, approaches, education, gender and cultural background all lend richness to the creative process. Whether a traditional or alternative methodology is used for planning, the richness of perspectives and contributions is the goal for a successful strategic planning process.

Clients also have a role to play in your strategic planning process. Your firm should have an established method for asking your clients what they see in the future for their businesses and what they think you will need to do to serve them effectively over time. You will get more targeted information about the future of their needs, they will appreciate that you take their concerns for the future seriously, and it will build goodwill for your firm.

What about end users? We rarely hear of firms inviting members of the community in to share their opinions and ideas about the community's needs; this is usually left to city council meetings and similar public forums. Yet design firms often tell us they wish they had more influence in how the community makes choices about urban design, infrastructure choices, green building, long-term planning, preservation of green spaces and other factors that can affect the quality of the entire region. One way to build influence and to identify unaddressed community needs that could become work is to give the public user the same consideration you give clients: Invite them in and ask them.

#### RESEARCH

Research is the basis for understanding what the firm's opportunities will be in the future, and it must occur both within and outside the firm. Depending

on whether the firm is doing a full-blown strategic plan, an interim short-term plan or tuning up a month-to-month ongoing process, different levels of data will be needed.

Internally, every firm must understand two things about clients and projects: whether they are profitable, and whether doing that work and working with those clients satisfies the professional passions that are the firm's purpose for being. Firms should seek to do more work that is both profitable and satisfying. It can be useful to spend time identifying which types of projects and clients are high-demand/low-profit or even cause a loss to the firm. Let another company that is a better fit do this work.

The firm must also know what its own values are and how they are expressed in its culture. It should understand what range it falls into on these issues:

- Does the firm push for innovation, or does it prefer a business-as-usual stance?
- Where does the firm fall on the risk spectrum? Does it like to take high risk and possibly reap the rewards? Does the firm prefer a conservative approach that minimizes risk? Is there a risk awareness program to mitigate exposure in either case?
- How does the firm feel about the alignment of offices? Is it run as autonomous business units, or does it expect across-the-board cohesion as a firm?
- What is the firm's stance on ethics, and how is that expressed in the firm's work?
- Does the firm adhere to a primary focus on one thing that it does supremely well? Or is it active in many markets and services?
- Will the firm grow organically, or is acquisition a desired method for growing?
- Where does the firm stand on collaboration? Are clients, subconsultants and contractors fellow travelers on a journey? Or are they factors in a project process that need to be managed and overseen?
- What is the firm's attitude towards staff? Does the firm's work require that they be interchangeable parts in a production line striving to meet the lowest costs, or does the company nurture them as individual professionals making creative contributions?
- Is the firm's work focused on service or on price?

The firm needs to be clear about these when looking towards future strategies. Markets and services will change constantly, but it takes a full generation to change an organization's culture. If a strategy is not in alignment with the culture, that strategy will never be fully realized.



To understand how the marketplace is changing in ways that will affect the firm, research must also encompass trends in the outside world — you need to “go wide.” At the macro level, we recommend examining seven major trend areas: economic, social, political, technological, environmental, global and the A/E/C industry. All of these areas are widely documented by media outlets, nongovernmental organization studies, university research papers, futurists, corporate analyses made available to the public and many other sources. Collecting and organizing

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this data can be a thought-provoking learning experience for the people participating in the planning process as well as an opportunity for developing leaders to learn skills in scanning the horizon for relevant trends. Many firms combine some internal research with the efforts of an outside researcher to save time and keep costs reasonable.

On a level that is closer to the firm, data should be gathered about competitors. Our recent conversations with CEOs have emphasized that competition is not only steep, but also is coming from new quarters. Mega-firms are pursuing work that they once ignored as too small. Firms from outside the U.S. are competing for — and winning — projects that were once local meat-and-potatoes work. Not long

ago, most consulting design firms looked at globalization as a concept of concern to banks and manufacturers. Today, globalization has become our concern.

Also relevant are local and regional trends and changes in client organizations and needs. Once again, direct interaction with your clients is your most useful resource. Invite them to tell you what is changing in their business, why, what changes they are facing over the next several years, and what you can do to support them.

When you have found all the information relevant to your firm’s needs, how do you interpret everything you have learned?

### SCENARIOS CREATE CLARITY

Scenarios can help create clarity from a complexity of data, trends and opinions and help substantially with the idea generation needed to form a successful strategic plan. Scenarios are thought-provokers to give planning teams a structured way to look at possible futures and drive their thinking outside of the familiar channels. All scenarios look at defined sets of trends and organize them into easily grasped stories that illustrate how those trends might play out under different conditions.

Many firms that use scenarios limit those to the best-case future and the worst-case future and usually end up doing most of their planning on the optimistic

side. In reality, the future plays out for us with a great range of subtlety and variation, and this subtlety can best be explored by looking at a wider range of possible futures.

Building scenarios for planning purposes can be hard: it takes time to collect the data and organize it into scenarios that reflect how the real world could play out. FMI and a team of experts from the industry worked together in 2009 and 2010 to create four future scenarios for the A/E/C industry, taking some of the effort and

cost out of the process for firms who use the material in their internal planning. These recently created scenarios, tuned to the needs of consulting design firms, provide a framework for examining the collected data as to how specific trends could play out in that firm's marketplace.

The process described here combines the A/E/C Future Scenarios with the data collected by a firm to identify implications for the firm and customize the scenarios to the firm's specific conditions and needs.

The planning team is given the A/E/C Future Scenarios, and each person is asked to pick two of them to analyze and to write down the implications he or she sees arising from these scenarios, i.e., how the two scenarios each of them chose would affect the firm if they played out as described. Supplied with information and knowledge, as well as the time to process, planning teams can see and understand how this data applies to their organization.

After identifying the implications on an individual basis, the group then meets, reviews the implications together and decides on the scenarios it wants to build for the firm, specific to the markets, the organization's structure and culture, and the firm's situation. Some clients have used a four-quadrant method to create the firm's scenarios, and others modify the existing A/E/C Scenarios.

The next step is to go broad: Using both the drivers supplied in the *Future of the A/E/C Industry* report and the drivers identified by the firm, the team finds the key universal and specific drivers that apply to its firm, at both the macro and micro levels. For example, the

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rise in energy costs is a worldwide macro trend; it can play out at the micro level when your long-term client commits to build all its new facilities at a high level of energy efficiency.

### STRATEGIES ARE SOLUTIONS TO PROBLEMS

With key drivers identified, the team then identifies potential strategies to respond to the key drivers. This can take several forms. For instance there could be a general brainstorming session of the entire planning team, breaking into small groups to discuss how to respond to the drivers, or individual assignments followed by presentations to the entire team. Many tools can contribute to this idea-generation process. The goal of generating these ideas is to move toward creating solutions.

Architects and engineers are trained in generating ideas for projects — designers solve problems, and those solutions are projects. These same skills apply to generating ideas for business strategies. Assume a beginner's mind-set — put aside biases and approach the challenge with a fresh outlook:

- Don't judge
- Question everything
- Be truly curious
- Find patterns
- Listen

The rules for all these processes are generally similar and should help foster creativity and generate a wide range of ideas:

- Be visual
- Go for quantity
- Stay on topic
- Build on the ideas of others
- Encourage wild ideas
- Identify “how might we”
- Defer judgment

With a number of proposed strategies identified, planning teams can be broken into groups again to test the strategies against the firm-specific scenarios: Which strategies are effective in dealing with which scenarios? The strategies are then ranked by how robust they are (how effectively they apply to each scenario). Strong strategies for the firm are viable in all four scenarios and are obviously going to be the most useful under a variety of possible futures for the firm. Strategies that respond well to three scenarios are moved ahead, and for strategies that apply to only two or one of the scenarios, choices must be made about which to keep and which to reject.

With the array of possible strategies narrowed down to the most robust and flexible choices, the team now faces more big decisions: How much can we really do, given the resources that we have or can secure in the near term?

The next step, which we will examine in Part 3 of this series, is to create the implementation plans for making the strategies happen and create the systems that will make this implementation part of daily operations for every person in the firm. ■

*Note: This article used some concepts from the D. School Bootcamp Bootleg, a guide to the design process from the Hasso Plattner Institute of Design at Stanford. A free copy of the booklet can be downloaded from: <http://dschool.typepad.com/files/bootcamp-bootleg2010.pdf>*

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# The Chinese Butterfly Effect

The Chinese are coming. They will be cheaper and, if you are not willing to respond creatively to the challenges, better!

*By Michael Sheppard*

**A**s a tip of the hat to a fundamental premise of Chaos Theory, a famous meteorologist once asked, “Does the flap of a butterfly’s wings in Brazil set off a tornado in Texas?”<sup>1</sup> Since then, the butterfly effect has become a popular point of departure for arguments in every scientific and engineering discipline.

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As we in the west try to grasp the impact on our lives of a rapidly evolving China, we need to look at the center of the evolution, its history and its impact on our futures as participants in a global construction economy. When the Chinese construction butterfly flaps its wings, will we be swept up in flight or crushed in the downdraft?

Since 1986 when then Chinese supreme leader Deng Xiaoping declared to Mike Wallace on “60 Minutes” that “making money is good,” the Chinese economy has swept into second place in the world. By establishing Special Economic Zones, the supreme leader began a process whose direction perhaps even he could not have predicted. In the three decades prior to Deng’s reforms, the Chinese government had systematically dismantled or destroyed most of the institutions that normally balance the avarice of the individual with the good for the people. Concepts of customer satisfaction, warranty and consumer safety

regulation had been replaced with central planning and an authoritative central government that pervaded every aspect of life. Mao's cultural revolution was the culmination of that destruction.

With the new order under Deng, China first began developments in the coastal districts of Shanghai and Guangzhou, which transformed these regions from bicycle-based, rural agricultural economies to dynamic construction-fueled economic city-states that rivaled Hong Kong.

As state industries dismantled and a new elite rapidly arose, companies frequently took shortcuts. Despite the evidence of Draconian punishments if caught, Chinese entrepreneurs paid little attention to the incomplete and inadequate regulations on consumer and occupational safety. Adding a toxic by-product like Melamine to powdered milk to disguise its protein content became a typical risk taken, this time producing 300,000 victims.<sup>2</sup>

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**As part of its rapid development, the Chinese government has cleverly enticed foreign companies in search of access to a new market to risk their intellectual property in the pursuit of growth and profit.**

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Trampling on zoning regulation and deed rights, developers erect inadequately engineered buildings for huge profits. As Paul Midler, author of "Poorly Made in China" (Wiley, 2009) reported in the *Wall Street Journal*, "in China, operators display an incredible willingness to place public safety at risk in exchange for only the smallest gains in profit."<sup>3</sup> But despite all of the observed flaws, the Chinese economy has flourished.

The Chinese government is beginning to grapple with corruption and regulatory mismanagement.

"Zhong Banfa" Document No. 27, issued in July 2009, takes on the question of corruption head-on.<sup>4</sup> The Chinese government will eventually get its hands around such problems.

The difficulty is that regulatory mismanagement is not solely a domestic China issue. In the United States construction industry, we saw the consequences of regulatory failures with the importation of toxic drywall products following a shortage of normal product earlier this decade. The final cost of that debacle is unknown, but losses and litigation costs are estimated in excess of \$25 billion.<sup>5</sup> More importantly for the Chinese, this product failure served as a wakeup call to the consequences of bad global public relations.

As part of its rapid development, the Chinese government has cleverly enticed foreign companies in search of access to a new market to risk their intellectual property in the pursuit of growth and profit. With the exception of a few wholly owned foreign enterprises (WOFEs), the majority of the western companies joined with domestic partners to build plants or develop infrastructure. In the process, much

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**Consuming one-half of the world's concrete and one-third of the steel, one observer quoted that there are more construction tower cranes in China than buildings in Australia.**

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of the intellectual property has been turned over to these partnerships and is now being repatriated in spades. High-speed rail technology is perhaps the most visible example where Siemens, Kawasaki and other European and Japanese firms began the development of the Chinese high-speed rail infrastructure. Chinese firms with access to that technology are now underbidding these pioneers, both inside China and abroad.

Nevertheless, the home Chinese construction market remains enormously appealing. Consuming one-half of the world's concrete and one-third of the steel, one observer quoted that there are more construction tower cranes in China than buildings

in Australia.<sup>6</sup> However, its own growth is contributing to its problems. The Three Gorges Dam is being re-evaluated as perhaps the greatest manmade ecologic disaster in history. With millions of people displaced, millions of acres of land made unusable and massive water pollution and erosion, the Chinese government is belatedly remeasuring the cost of the hydropower it produces. China's signature high-speed rails system development has recently been slowed down by the government, in part over concerns for shoddy construction materials.

Excessive demand has led to undersized rebar and low-grade fly ash used in railway construction. The current corruption trial of former railway minister Liu Zhijun, estimated by the Economist to have skimmed \$150 million in bribes, illustrates the magnitude of corruption.<sup>7</sup>

The focus of domestic construction in China is changing. The emphasis on high-profile urban projects in the Special Economic Regions and national rail infrastructure will continue, but the 12th five-year plan (2011–2015) concentrates on the expansion of construction activity in the rural areas, particularly in housing. This focus intends to help level the economic disparity between rich and poor. Rural expansion will increase the demand for materials, earth-moving equipment and building technology.

#### **THE TWO-EDGED SWORD, WHAT IF THEY ARE SUCCESSFUL?**

Despite the highly publicized flaws and product disasters that come with bootstrapping an economy from the 18th century to the 21st century, the Chinese

have begun to develop a construction infrastructure of firms, engineering talent and labor force that, when coupled with compliant state-sponsored banks, can access the world's largest supply of foreign resources at more than \$2.1 trillion. That cooperation makes it possible to bid and lead in financial projects that many western firms cannot provide. Chinese service revenue from overseas construction surged to \$44.33 billion from January to August 2009, up 34% from 2008.<sup>8</sup>

With a mobile and lower-cost workforce, Chinese firms can be very competitive. Additionally, taking advantage of their developed skills in prefabrication learned in the frantic world of their domestic economy, they could propose products that can be cheaply fabricated in China for assembly offshore.

China State Construction Engineering Corp Limited, a global 1000 publicly listed company in China, has a subsidiary already operating successfully in the U.S. Additionally, firms like Lenovo and Haier are becoming part of our daily life.

#### WHAT IF THEY FAIL?

The Duke of Wellington is quoted as saying after the Battle of Waterloo, "The only thing worse than a battle won is a battle lost." If the markets' perception of Chinese products and services continues to deteriorate or the overwhelming pressures of rural-to-urban migration stop the growth of the Chinese economy, the global consequences are frightening. There would be a potentially disastrous impact on U.S. Treasuries, and available product financing in the U.S. would dry up.

Many of the USA's biggest companies are tied inexorably to China. Wal-Mart is China's seventh-largest export partner, just ahead of the United Kingdom. The materials shock both on finished Chinese product sent to the U.S. and China's demand for our materials and products would dry up. In all likelihood, there would be widespread dumping of materials in our market, which might temporarily suppress prices but would do widespread damage to domestic producers.

What should my firm do about the Chinese Butterfly?

- Evaluate your exposure. Do not assume that because your business is domestic that you are not at risk.
- Review all of your major material and manufactured product suppliers in order to confirm the correct quality assurance has been performed during the procurement, manufacturing and logistics processes. Recognize that U.S. testing laboratories, such as UL, are helpful but not fail-safe. Consider the 2001 study by the U.S. Consumer Product Safety Commission. The study reviewed 200 recalled electric products from China and found that

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**Many of the USA's biggest companies are tied inexorably to China. Wal-Mart is China's seventh largest export partner, just ahead of the United Kingdom.**

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more than one quarter had approval stamps from third-party testers like UL or CSA.<sup>9</sup>

- Keep your eyes open to new competitors with innovative products and technologies. European and Asian companies are eager to export their construction products here, many of which are manufactured in China.
- Strengthen your defense — “The best defense is a good offense.”
- Be proactive. Review, with your insurer and bond company, your product and service liability coverage. Make sure you understand your risks. Many contractors are gamblers at heart, but you should at least know what you are betting!
- Look to your trade associations for new technologies and innovating competitors outside of your service area.
- Consider embracing a new partner after you have done a thorough strength and weakness assessment. Remember that in any partnership, technology always gets transferred.

Just do not ignore reality: The Chinese are coming. They will be cheaper and, if you are not willing to respond creatively to the challenges, better! ■

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*After starting his business career as a consultant with FMI Corporation, **Mike Sheppard** went on to a career in the software industry, culminating in an assignment as group vice president for Asia Pacific and Japan with JD Edwards & Co., a billion dollar software company headquartered in Denver, Colo. After returning from his overseas assignment, Mike retired to Chapel Hill, N.C., and Camden, Maine, where he and his wife manage their portfolio as angel investors in the technology industry.*

<sup>1</sup> “Predictability: Does the Flap of a Butterfly’s wings in Brazil set off a tornado in Texas?” 1972 Paper at the American Association for the Advancement of Science, Washington, D.C.

<sup>2</sup> Branigan, Tania, The Guardian (UK), December 2008.

<sup>3</sup> Midler, Paul “Why China Keeps Poisoning the Milk,” WSJ Article, 9 February 2010.

<sup>4</sup> Jones Day, “China’s Construction Industry Comes Under the Microscope,” August 2009.

<sup>5</sup> Tudor Van Hampton, Engineering News Record, 6 April 2010.

<sup>6</sup> Leslie, J. “The Last Empire: China’s Pollution Problem Goes Global.” Mother Jones, 10 December 2007.

<sup>7</sup> The Economist, “Off the Rails?,” 31 March 2011.

<sup>8</sup> China Daily, “China’s Construction Industry Exports Its Expertise”, 28 September 2009.

<sup>9</sup> Paul Midler, Forbes, “Dealing with Quality Fade,” 26 July 2007.

# After the Storm: Planning for a Better Future

**MY PERSPECTIVE SERIES:**  
REPRESENTING THE AUTHOR'S  
PERSONAL PERSPECTIVE

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Choose as your planning colleagues those who see themselves as creators, not victims; as initiators, not reactors.

*by Louis L. Marines*

**T**his time it is different — the economic storm our industry has weathered for too long seems slow to abate. This was a bad one — it extracted a toll on the lives of firms and in the professional lives of too many people. For them, not all turned out for the best; they are not better off for the trauma they faced. We are all sad to have witnessed their demise and, with some guilt, relieved that we survived.

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For most of us, there is no going back to whatever we thought normal was; now we know the world has changed inalterably, and in surviving, we have also been changed. We can begin to breathe again and think about desired changes that are beyond survival: What will our professional and organizational lives be in the future? What do we want them to be? How do we improve our chances of living well — whatever that means for each of us — in the organizational time that remains for us?

Most of us will answer that question by some kind of planning, often using the process we call strategic planning, and many of us will use scenario planning in that inquiry. Creating and testing scenarios is a good thing, given the uncertain state of the world. However, before we proceed to plan anew, some cautions, caveats and concerns may make that planning process a better investment for you.

## TWO PROBLEMS WITH DISSATISFACTION

Planning can often be a way of expressing your dissatisfaction with the present, and many pundits believe dissatisfaction is a great petri dish for creativity. That's good. Yet there are two problems in dissatisfaction.

First, you may lose sight of, and appreciation and gratitude for, all that is good in your firm now (the Strengths part of the SWOT analysis). I think here not only of your core business attributes, but also of the trust, goodwill, camaraderie, interdependence, creativity, ethics, morality, community history and endearing stories that exist among your partners, clients, staff, consultants, industry friends and other stakeholders. These are attributes that helped you survive. You need to preserve them no matter what alternative future strategies you embrace. This exploration and affirmation should also be challenged in every instance — of those things you catalog as good, do all the leaders in your firm view these strengths

as assets and see their benefits as universally good?

Second, being dissatisfied with the present, and thus focused on the future, you may lose your visceral and complete connection to the current moment in your firm, in the lives of your staff, clients and friends. Life can only be experienced in the moment — that is where real impact and meaning reside. If you are too focused on the future, you may lose your connection to the challenges, joys and opportunities life offers you every day. The future is an abstract concept about which we can only intellectualize; creativity, innovation, compassion, happiness, grace and friendship can be experienced fully only in the current moment.

Many of you are moving so fast in search of the future's promise that you

do not see people who are not moving as quickly as you are. You are acutely aware that uncertainty breeds fear (perhaps because we do not have the courage to trust ourselves), and your response may be a kind of random, Brownian movement:<sup>1</sup> Any action must be better than no action, so you jump on your horse and ride off in all directions.

Future planning must not deny us recognition and appreciation for everything we are today that is good and should not wrench us into living in the future as if the present is already history, forcing us to miss the joy of living in this present moment.

## CAN BLINDNESS BE CURED?

Many of you may once again place the planning responsibility in the hands of the very leaders who did not anticipate the last recession or its impact on the firm. As author and businessperson Margaret Heffernan observes, those leaders

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experienced “willful blindness.” Perhaps blinded by familiarity, they denied the early warning signs that problems existed in the markets and clients you served, and you saw your firm survive only by the grace of Lady Luck or some other cosmic force. Can their “blindness” be cured? They may be so exhausted after the battles of the last several years that they can only give lip service to the energy, passion, insight and stamina needed to craft and execute plans for the firm's preferred future. We accept and appreciate their loyalty and commitment. Maybe our best appreciation can be to allow them to take a reduced planning role or to observe, or even to sit out, this planning cycle.

Even if those leaders are energized, how well-equipped are they for assessing a new world rife with environmental, geopolitical and economic uncertainty? At a certain maturity, your mental models — the frames through which you view the world, the patterns and trends you think you see — are immutably set. Some seniors may be hard-wired in their views about the way the world was, not how it is or is becoming. They are sure of things whose proof they have long forgotten and are burdened with axioms and clichés about growth, business and organizational models, metrics, project delivery alternatives, pricing, marketing, human resources and the like, which may no longer be true, if they ever were fully true.

I'm not telling you to turn your firm's future planning over to your Millennials, nor to outsiders. However, getting new minds and hearts involved is a good idea. Choose as your planning colleagues those who see themselves as creators, not victims; as initiators, not reactors — those who do not want to spend the next phase of their career playing defense.

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**Choose as your planning colleagues those who see themselves as creators, not victims; as initiators, not reactors — those who do not want to spend the next phase of their career playing defense.**

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If you decide to access and blend in the wisdom of those born in the Reagan years and since, let them also have a say in what the planning process looks like and how it works. Do not put them in closed rooms, no matter how plush or Spartan, surrounded by flip charts, markers and tape and expect them to flourish using your old familiar process. Tell them what you are out to do and let them help you design a

better process using the entire information gathering and assessing capacity that characterizes the only world they have ever known — where information gathering, analysis, collaboration and decision making are technology-mediated.

### WHAT MAKES YOU HAPPY?

Don't forget about you. Many of you get lost in the future planning process, subordinating your own interests (even when you can remember what they really are), to consensus, collaboration and the “needs of the firm.” David Whyte, poet and Fortune 500 consultant, says that the bedrock question at work is, “Am I happy?” So what makes you happy? At work and in life, what really matters to you? What and who must be part of your life before you die? What do you really appreciate in your life that must continue? Do not sacrifice these needs, hopes and aspirations on the altar of the firm. Only you can know what makes you happy, and only you can be the spokesperson and claimant for your life. In the words of poet Mary Oliver, “Tell me, what is it you plan to do with your one wild and precious life?” In the galaxy of strategic plans, this is the star that most matters. Make sure you find your answer facilitated in the firm’s plans; if not, consider whether your star may burn brighter and truer in other deep space.

The last few years have been difficult; the next several years may not be easy, until we find and capture the opportunities this great economic, environmental and geopolitical turbulence is unleashing. Recognizing and appreciating our assets, staying creatively present, making sure planning is in the hands of your “A” team, and taking care of yourself are great building blocks to stand on, in order to see and to seize your and your firm’s rightful futures. ■

#### Suggested Reading:

Heffernan, M. (2011.) *Willful Blindness: Why We Ignore the Obvious at Our Peril*. New York: Walker & Co.

Whyte, D. (2001). *Crossing the Unknown Sea: Work as a pilgrimage of identity*. New York: Riverhead Books.

Oliver, M. (2008.) “The Summer Day.” *The Truro Bear and Other Adventures: Poems and Essays*. Boston, Mass.: Beacon Press.

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<sup>1</sup> Brownian movement: — The irregular motion of small particles suspended in a liquid or a gas, caused by the bombardment of the particles by molecules of the medium: first observed by Robert Brown in 1827.

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