2013 ISSUE 4

FMI Quarterly

60 BRIGHT IDEAS FROM OUR FIRST 60 YEARS

VOLUME 2

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THIS QUARTER

60 IDEAS FROM 60 YEARS

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CONTACT US AT:

www.fminet.com

quarterly_info@fminet.com

This Quarter: We're 60 Years In

VOLUME 2

Dear Reader:

In this issue, we finish our description of 60 Bright Ideas from FMI's first 60 years. This concluding 30 ideas range from building business acumen to getting paid to pricing for value to attracting people to the industry, with much more in between. All of the 60 ideas come from the fertile minds and broad experience of FMI consultants and investment bankers, our publishing partner Zurich North America and our clients.

As I mentioned in my last publisher's letter, we are celebrating both FMI's first 60 years of serving the engineering and construction industry along with the first decade of the FMI Quarterly. With bright people, there are always plenty of great notions, but the notions do not get traction until someone does something. In our consulting work, generally our clients give traction to both our ideas and their own. For the FMI Quarterly, what began as a great notion only became reality as the men and women of FMI began to contribute their descriptions of their ideas and their work with our clients. As publisher, I assure you that this publication is not a one-person job. Our editor, Kelley Chisholm, is outstanding. Our graphic designer, Mary Humphrey, does an excellent job each and every issue and has for our 10-year publishing history. Our proofreaders and info-graphic designers all do a great job in a tough role where only precision is good enough. Sally Hulick minds our work and keeps us on task. But all of that skill would not produce the FMI Quarterly. For the past 10 years, and the foreseeable future, we can only craft a publication worth reading with the support, contributions and sweat equity of our consultants and investment bankers and the experiences of our clients. So for this 10-year anniversary of the FMI Quarterly, I express deepest appreciation from the staff of the FMI Quarterly and me to our writers for making our work product possible and enabling us to provide you with a quality publication.

We have received some wonderful feedback from you over the years and especially as we delivered the first 30 of our bright ideas. I hope that we delight you equally with this batch and continue to hold your interest in our future volumes. Your feedback, whether positive or constructively critical, helps us shape our future offerings. Our next issue has the theme of Team Building. We will have pithy articles and some surprising conclusions on aspects of team building. I hope you will join us for another good read.

On a sad note, FMI alumnus and former J.D. Edwards's executive Mike Sheppard lost his battle with renal cell cancer. He was a fine fellow, a credit to the industry and a personal friend. We shall miss him.

Gratefully,

Jerry Jackson

Jerry Jackson
FMI Quarterly Publisher and Senior Editor

Finding your Balance in Work and Life

By Mark Hooey, Tom Alafat and Ed Rowell

#31

In some work environments, it might be hard to find examples of highly successful people who have a healthy balance between work and the rest of life. If everyone you know is as busy as you are, that does not make it right or good. It only means that most people are struggling with the same issues.

CASE STUDY

Craig Parker is a 41-year-old senior project manager for a large commercial builder based in the Midwest. Craig loves his job — the satisfaction of meaningful work, being part of a great team, adding value to his clients. His company has been good to him, allowing him to grow and develop his skills, sometimes by making some costly mistakes. His compensation is more than fair; in fact, it would be hard to match if he decided to work elsewhere.

He works hard, like most people in his industry. Most days you will find him on the job by 6:30 a.m. and he frequently does not get home until 8 p.m. Most Saturdays he works at least half a day, "just to catch up," he tells himself. But, honestly, it has been a long time since he has felt caught up.

Craig has been married for 15 years and has two children, seven and 10. He loves his family and feels guilty that right now they are getting the short end of the stick. His wife, Holly, has been supportive of his career and enjoys the lifestyle his income allows. But, for a while now, she has made it known that she feels all alone when it comes to parenting. It has been too long since they have felt connected, and Craig secretly wonders if his marriage is in trouble.

His doctor gave him a lecture at his last appointment because his weight, blood pressure and cholesterol were all up. It was evident that too many meals on the run, no time for exercise or recreation, and nonstop stress were taking a toll on his health and sleep patterns.

Even though he tells himself that he is lucky to have a job in this economy, sometimes Craig feels like a hamster on a wheel. Someone, somewhere is making the wheel spin faster and faster, and he cannot find a way to get off. By the end of a project, after too many long days, he has even found himself feeling resentful about the pressure he is under, even though he is not even sure who is to blame.

Craig is representative of many key managers in FMI's client companies — smart, successful, diligent and driven. Increasingly though, many are starting to realize that if they do not find some balance, their families, health and general well-being will continue to suffer.

When work becomes all-consuming, it takes a toll on families, on physical and emotional health, and even on one's ability to make wise decisions.

The common concern is that if they slow down for even a minute, they will lose their edge. We see this so frequently that we consider it a predictable step in the leadership development process. The good news is that learning how to find balance on the slippery slopes of success is not only possible, but it also can be a launching pad for even greater effectiveness and success in the workplace and a more meaningful life in general.

WHERE DID IT FALL APART?

Work is an important part of life. It provides us with more than an income. It gives shape to our days, contributes to our sense of purpose and allows us to be part of something bigger than ourselves and take appropriate pride in our accomplishments.

But when work becomes all-consuming, it takes a toll on families, on physical and emotional health, and even on one's ability to make wise decisions. Sharon L. Allen, chairman of the board at Deloitte & Touche USA LLP, recently said, "When you think about it, if people invest all their time and energy into their jobs, it may have the unintended consequence of making them dependent on their jobs for everything — including their sense of self-worth. This makes it even harder to make a good choice when faced with an ethical dilemma if they believe it will impact their professional success."

Work is an important part of life. It provides us with more than an income.

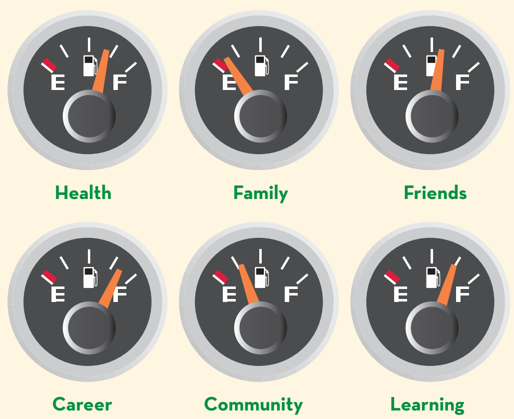
The deepest part of our true selves needs more than work. We need relationships, recreation and simple downtime. And yet, many today feel those things must be sacrificed if we are to make it in an extremely competitive industry.

We have seen this many times and can confirm that it is not only possible but also important to make changes that create better balance, health and well-being, but it will mean swimming against the powerful forces of contemporary expectations and examples.

Imagine that your life has a dashboard with gauges, just like a high-performance automobile (see Exhibit 1).

Exhibit 1

Personal Dashboard



If you could measure your current level of engagement with the major areas of your life, how would your gauges read? Full, half-full or empty?

- Career
- Spiritual
- Fun
- Friends
- Personal health
- Learning
- Community
- Family

If you had to force-rank these areas, what order or priority would you give them? Force-ranking is important because it makes you determine where you focus your time and energy.

Once you identify how much time and energy you are currently giving to each value, you will better understand why particular areas of your life seem stressful.

Pay attention to which areas of your life cause anxiety or guilt. Ask yourself why. Next, ask yourself where other important people in your life might agree or disagree with your assessment. What would your children, spouse, friends, family, boss, etc., say about your priorities?

This is just an assessment, so have compassion with yourself — none of us is perfect at everything! An accurate assessment can be painful, but it is crucial to developing a personal strategy for change.

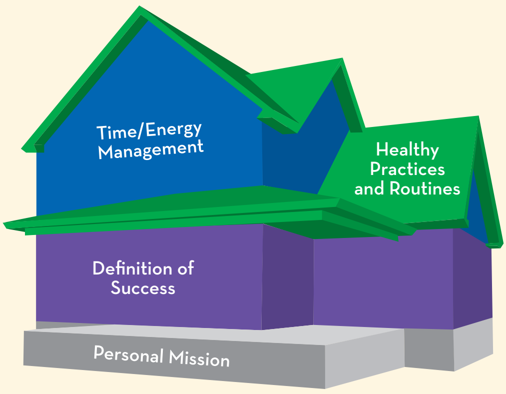
BUILDING YOUR HOUSE

Now it is time to construct a plan. From the homeowner's perspective, building a home always:

- Costs more than we expected to pay
- Takes longer than we expected to wait
- Is a bigger mess than we expected to encounter.

And yet the satisfaction that comes from a well-built home that meets our

Exhibit 1
Building Work-Life Balance



needs and gratifies our senses is worth it in the end.

FMI's process of building work-life balance is kind of like that, and one of the reasons why we use the image of a house to teach both scope and sequence of learning a better way of living life (see Exhibit 2). A solid foundation is essential and must be laid before the walls can be constructed. The second story can only be laid after the first story is framed. The roof comes last, and ties everything together. Let's look at this model one step at a time.

Reconnect with your personal mission and core values

Knowing what we stand for, believe in and value most are valuable steps to laying the foundation for building a quality life. When leaders lead from the most significant parts of their true selves, they become much more effective at responding to the world around them. That is why we believe that finding work-life balance must begin with an assessment of our personal mission and core values.

Every leader needs a solid place on which to stand if he or she is going to thrive. The question, "What centers me?" deserves an answer from every leader. Our experience shows that most people discover that their personal values and sense of purpose (personal mission statement) provide that stable place from which they can lead effectively.

Another way of discovering your personal mission is by asking, "Why am I here?" While that question may seem a little philosophical, it is worth pondering. An example of a personal mission statement may be as simple as "I am dedicated to achieve every goal I choose to pursue, professionally and personally, ethically and honestly." The good news is that all people have the right to answer that question for themselves. If you do not, others will. You can bet your boss has an answer to that question, as does your spouse, if you are married.

Very few people get up in the morning with the intent of screwing up everything they touch.

Clarify your personal definition of success

Very few people get up in the morning with the intent of screwing up everything they touch. Most of us roll out of bed, already deciding what needs to be done in the coming day.

While we may not be conscious of that decision, what we are thinking is, "What do I need to do to be successful today?"

Sleep management is an essential component of managing energy.

Practice time/energy management

Most leaders have some training in time management and understand why they must deal with the "important" versus the "urgent." Greater productivity is not measured solely in hours spent on the job, but in results. One approach to work-life balance is to concentrate on ways to increase energy and focus throughout the day, while also being intentional about conserving enough of it for after-work and weekend living.

Sleep management is an essential component of managing energy. There is broad scientific consensus that the majority of people need seven to eight hours of quality sleep to function optimally.

Our diet has a far greater impact on our energy levels than we might expect. Learning to eat the right foods at the right times can dramatically affect our energy levels.

Everyone acknowledges the importance of exercise. You may also have heard cartoonist Paul Terry's popular response. "Whenever I feel the need to exercise, I lie down until the feeling goes away." Achieving and maintaining a high level of fitness increases our energy, alertness and ability to function under stress. Exercise is so important that researchers tell us that if we have to make a choice, a half hour of cardiovascular exercise or strength training is more desirable than an extra half-hour of sleep.

Every season of life demands an overhaul of our practices and routines to ensure they are relevant to the stage of life we are in right now.

Develop healthy practices and routines

The final step in building the life you desire is to put in place healthy practices and routines. Many of us developed the habits and routines we practice now in a different stage of our lives. For example, when we were young and single, we could work long hours, sleep less and pay little attention to our diet or drinking habits, with little immediate effect. We were not responsible for anyone other than ourselves. Our time and money was ours to spend as we chose. Fast-forward a few decades, and those same habits will sink our ship in a hurry.

Every season of life demands an overhaul of our practices and routines to ensure they are relevant to the stage of life we are in right now.

THE REWARDS

Over the years that we have been teaching these principles, we have heard many success stories from men and women who were once like Craig, whose story we told at the beginning of this article. By making the changes described, these people experience a far greater sense of control over their lives and no longer feel like victims.

They experience the freedom that comes when we learn to live in harmony with our purpose and values. They discover the fulfillment of a well-integrated life. As satisfying as work can be, they are now reconnected with family, friends, hobbies and all the other things that make life even more satisfying. ■

Mark Hooey *is a consultant with FMI Corporation. He can be reached at 303.398.7208 or via email at mhooey@fminet.com.* ***Tom Alafat*** *is a principal with FMI. He can be reached at 303.398.7209 or via email at talafat@fminet.com.* ***Ed Rowell*** *is an author and coach to leaders.*

[1] http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_2007_ethics_workplace_survey_011009.pdf.
[2] ibid, p. 59.

Pricing for Value, Not Purely Cost

By Mike Clancy

#32

In today's market, the assumption many contractors make is that there are no longer opportunities to sell value. In fact, the phrase we hear over and again from our clients is that "Customers only care about the lowest price." Is that true? Certainly, some customers are price-conscious to the exclusion of all else; municipal and state owners have consistently procured projects through this methodology, even before the recent recession. However, many customers who previously would have made price a much smaller part of their decision matrices seem to have forgotten all the reasons they did so in favor of this same bottom-dollar procurement process.

There are still customers out there raising other factors to at least the same level as price and niches where price sensitivity is low. The wise contractor will seek out the opportunities to work for those clients for whom price is not the decisive factor.

CUSTOMER SELECTION IS THE KEY

Not long ago, FMI had the opportunity to sit down for a few hours with the chief of operations for a large institutional owner in the Northeast. This owner is widely perceived to be a thought leader in its market sector and a desirable target for many general and specialty contractors, with a large annual capital expenditures budget and multiple prestige projects. We spent the majority of our time together discussing the way his organization makes contractor selection decisions and the role that price plays in those decisions.

The decision matrix we discussed could be called "The Four Ps." People, process and previous experience were all at least as important as price in this organization's calculations. While the strength and reputation of an individual firm are certainly important, the individuals within that firm are at least as important. "You have to be a good firm, and give us your A-players." To the extent that standard processes increase predictability of the overall project results, these processes can be nearly as important as the right project team. Preconstruction processes are especially important, since they allow for early cost and schedule certainty. For example, good scheduling in preconstruction can identify times when construction will interfere with campus operations. Previous experience is also very important to owners, because it provides an additional layer of certainty that the project team can handle any issues that arise. As many project owners will tell you, the value of a low initial price is less than the value of a predictable final price. Therefore, to the extent you are able to demonstrate a higher degree of pricing certainty than the lowest initial bidder can, you are able to separate yourself from the pack.

The value of a low initial price is less than the value of a predictable final price.

Ultimately, these non-price decision criteria played at least as important a role for this owner as the price of the work. In fact, according to this client, contractors who had better processes, people and previous experience were invariably selected over their competitors who only had a lower price. In other words, contractors with better attributes were able to demand and receive higher margins than their less qualified competitors.

Contractors with better attributes were able to demand and receive higher margins than their less qualified competitors.

CUSTOMER DIFFERENTIATION — NOT JUST FOR AIRLINES

Not all customers will have this approach to pricing, so a differentiation strategy is required. The traditional model for sophisticated price differentiation is the airline industry. Airlines have long differentiated between their price-conscious leisure travel customers, who tend to book far in advance, and the less price-sensitive business travelers, who tend to book much closer to their travel date. In order to maximize the revenue per seat, the airlines change their prices for a seat depending on how near the travel date is. This is just one element of a sophisticated pricing algorithm that each airline develops to ensure it extracts the highest possible fares overall.

In much the same way, you must segment your customers into various classes to maximize your profitability overall. Some clients, such as municipal owners, tend to be more interested in the first cost of a project, so identifying ways to keep initial cost low and look for opportunities to improve your position through alternates and value engineering would be the way to address these buyers. Other customers value responsiveness and are willing to pay a premium to have quick reactions. Examples of these clients include water treatment plants, manufacturing facilities, refineries and other facilities that incur heavy costs for downtime.

The perceptive contractor will look for clues during the pursuit phase that a client has concerns more important than the bottom-line cost.

Another set of customers might accurately be described as price-insensitive. For these clients, price is not the first, second or even third characteristic of interest. A great example of this price-insensitive clientele can be found in the super-luxury residential market, where single-family homes can sell for north of $20 million and take more than two years to build, with more subcontractors, engineers and design involvement than all but the most complex nonresidential construction project. For these clients, a trusting relationship with the contractor, a maniacal commitment to finished quality and a willingness to maximize the enjoyment of the construction experience all matter much more than the cost of the project.

Finally, the perceptive contractor will look for clues during the pursuit phase that a client has concerns more important than the bottom-line cost. Leading questions used in the pursuit phase can be especially productive with serial builders. Some of these questions include:

- When you have built previously, what did you enjoy about the process? What parts of the experience were less pleasant?
- How involved do you like to be in the construction process? How can we best keep you informed?
- Imagine that we have just finished building your project. Looking back, what do you wish we had done differently?

VALUE PRICING IS ULTIMATELY ABOUT THE CUSTOMER

As with so much else in our business, your ability to price for value is directly dependent on your relationships with your customers. Those firms that have mastered the art of customer management will be able to demand higher margins based on a better understanding of what their customers value. Providing more value than the competition allows for pricing differentiation, even in today's tighter construction market. ■

Mike Clancy *is a principal with FMI Corporation. He can be reached at 919.785.9299 or via email at mclancy@fminet.com.*

Creating the Discipline of Execution

By Lee Smither

#33

In 2002, Larry Bossidy and Ram Charan coauthored a book titled “Execution, the Discipline of Getting Things Done,” which focused on the single element of successful companies that is so often overlooked: the ability to execute. Some engineering and construction companies would say this is their core strength, but others would argue that many of them fail to do this well.

To borrow from the book, execution is the main reason companies fall short on their promises — it is the gap between what a company’s leaders want to achieve and the ability of their organizations to deliver it. The superlative companies in our industry have linked together three key components — the people, strategy and operating plans — that provide the details of execution. Said another way, strategy well executed is the difference between aspirations and results. Many companies develop strategies that are correct, yet fail because they are simply not executed. Without execution, breakthrough thinking adds no value, no stretch goals are met, and morale suffers.

Execution is not just about efficiency and effectiveness: It is more comprehensive than that and encompasses these three points:

- Execution is a discipline and integral to strategy
- Execution is the major responsibility of senior management
- Execution must be a core element of a company’s culture

Strategic planning often involves a discussion of strategies and tactics, with “tactics” being the steps that are executed. Certainly, tactics are central to execution but execution is not just tactics. Execution is fundamental to strategy and has to play a role in shaping it.

Charan and Bossidy write, "Execution is a systematic process of rigorously discussing the hows and whats, questioning, tenaciously following through and ensuring accountability. It includes making assumptions about the business environment, assessing the company's capabilities, linking strategy to operations and the people who are to implement the strategy, and linking rewards to outcomes."

Many company CEOs would like to "think strategically" and let other managers do the dirty work of executing the plans. More often than not, the best performing companies are those where the CEO takes a passionate role in execution. That does not mean the CEO is out running projects, but rather personally engaged in the substance, sometimes even the details, of execution. Only by being deeply engaged can the CEO know which are the right questions to ask and which messages must be sent in order to communicate effectively. Leaders who are removed from the day-to-day operations of a business are the ones who get surprised by projects, people and customers.

Creating a culture of execution is imperative to long-term success and it is the foremost job of senior management. It cannot be delegated to project managers, department heads or other staff who do not have the authority to act and/or the internal clout to create change. Only the CEO and other senior people can set the tone and dialogue in the company.

According to Bossidy's and Charan's book, there are three building blocks of execution:

- Seven essential behaviors of leaders
- Creating the culture of execution
- Having the right people in the right places

Many senior managers who are engineers struggle to avoid being micromanagers and yet stay involved enough to know their people and manage them effectively. Certainly, there is a balance that one must maintain, but here are the seven behaviors that matter as you learn to lead others to create a culture of execution:

Know your people and your business. Every leader who receives information from someone is getting filtered information. If the CFO says that cash flow is not a problem, what is his or her definition of "no problem"? When project managers assume they can include unapproved change orders in an estimated revenue and profitability projection because they are sure that the owner will approve it next week, how will you know to ask, "Did you capture the additional costs?" if you do not know the business or the person deeply enough? Connecting personally with your people helps you build a more intuitive feel for the business as well as the people who are executing work.

Insist on realism. Nobody wants to be the messenger who gets shot or the troublemaker who challenges authority. People want to hide mistakes or buy time to figure out a solution rather than admit they do not have an answer at the moment. Reality is at the heart of execution. Leaders must set the tone of embracing reality and living with uncomfortable conversations at times. Many companies have embarked on pie-in-the-sky strategies or suffered project write-downs due to a lack of honest dialogue that went missing early in the process or job. Questioning the status quo or delivering bad news early is never a bad thing; in fact, it should be encouraged. Keep it real.

Set clear goals and priorities. One of most fundamental mistakes we see in senior managers is the laundry list of 10 to 12 priorities that are simply overwhelming to others who have to execute the array of tasks associated with the "executive wish list." A strategic plan should never have more than three to four major priorities. Think about it, if you have 10 major goals, you have no sense of what is most important because everything is important! When construction companies get into financial trouble, there is only one goal — collect receivables and conserve cash! We have seen priorities sharpen after a serious safety violation occurs — focus becomes intense, behavior gets modified, and results improve.

Follow-through. Everybody agreed that the goal was good, the strategy sound, but it was never accomplished. Sometimes it was because there was no one assigned responsibility, and accountability faltered. Maybe other things came up that seemed more important at the time. Maybe it was decided that it was not such a great idea in the first place, but no one spoke up. Simply put, the only way to create accountability and therefore a culture of execution is to have a strong process of follow-through in all things.

Reward the doers. In general, our industry does this piece quite well, but it is amazing to find some companies where reward has no linkage to performance. You should absolutely distinguish those who achieve results and those who do not, either in wages or bonuses and preferably the latter. In a culture of execution, socialism is not the goal; it has to be clear that rewards and advancement are based upon performance.

Expand the capabilities of your people. There are many baby boomer CEOs who are trying to figure out how to transfer their business to the next generation. They are often concerned or even sorely disappointed at the lack of business savvy in the next group of leaders. Company owners and senior executives have a responsibility to pass on their wisdom, knowledge and experience to those who will be running the organization after they are gone. This should never wait until they are ready to retire; it should happen all the time with regularity. This is how to expand the capability of the company and improve the results today. Coaching and training employees always provides a positive return on investment, even if you cannot calculate it with precision. Anecdotally, the companies that train their people perform better and have lower turnover and higher morale. All of these are worthy outcomes.

Know yourself. Depth of character is essential to being a good leader, especially when focusing on execution. It requires emotional fortitude to take the heat for poor performance, ask the tough questions or deal honestly with friends who may be taking advantage of your relationship. It requires strength of character to listen to and perhaps accept other ideas opposite of yours and deal with conflict. It also enables you to have the confidence to accept and deal with your own weaknesses. This comes from self-discovery, which can be obtained through leadership development. Asking others to provide honest feedback on your performance as a leader and for ways to improve it is a good place to start. A solid, long-term leader also has an ethical frame of reference that gives him or her the foundation of doing what is right. This goes hand in hand with honesty and integrity and is the hallmark of great leaders.

Corporate culture is powerful and potentially crippling if not oriented correctly. Most efforts at cultural change fail because they are linked to improving the company's business performance. Charan and Bossidy speak of "social operating mechanisms" as processes to change a company culture. There are three mechanisms that work here:

- Behaviors are beliefs turned into action, so believe your way into action. In other words, visualize your new way of behaving and beginning acting that way. Set the example as a leader.
- Increase the population of "A" players, defined as those who are top in performance and behavior. Reward them accordingly. Remove nonperformers, regardless of tenure or relationship.
- Value "truth over harmony" and create open, honest dialogue focused on execution and accountability. It will create uncomfortable situations but may also stimulate creativity.

Finally, you must have "the right people in the right places." There are many things you cannot control in business — the quality of your leaders is not one of them. We often hear that "people are our most important asset" — their judgment, experience and capabilities make the difference between success and failure for your organization. You should look for people who have a drive to excel. They are the ones who find ways to solve problems and make success happen. They usually energize other people and create excitement. If they also can get things done through others, all the better — they have mastered the art of delegation. If they are not afraid of tough decisions, you have winners.

Finding the best people requires a rigorous and systematic recruitment and hiring process. It involves setting standard requirements for knowledge, experience, past results and attributes/behaviors that you adhere to as you cull through the résumés, introduction interviews and final choices. Having multiple people involved in the interview process, asking tough questions about behaviors and results and not just background and education, is a best practice. Spend enough time with the person to get a "feel" for his or her work ethic and drive as well as his or her fit with your company's culture. If potential employees have unrealistic expectations that will not be ever be met, do not hire them hoping you can change their minds once they get on board. In today's climate, finding the best people is not easy, and in most cases, you will have to develop them internally or woo them from other firms. Either way it will be a time-intensive process but one that must be taken seriously in order to build a culture of execution.

Better leaders hire better people; better people make a better culture and a better culture makes better results occur. ■

Lee Smither *is a managing director at FMI Corporation. He can be reached at 919.785.9243 or via email at lsmither@fminet.com.*

Using Design Thinking for Negotiations

By Steven J. Isaacs

#34

In American culture, we tend to look at a compromise negotiation as a win-win result. In many cases this is actually a lose-lose. You started way over on the left, they started way over on the right, and when you reached the middle, you settled. That is what most people call a win-win.

Most of the time, when you have reached that point, you have given away so much that you have lost sight of your interests. You both are so sick of negotiating that when you reach the point where you cannot stand it anymore, they give in, you give in, and everyone wants to come to a conclusion, stop negotiating and go home. We call it a win-win to make ourselves feel better.

We are not always honest with ourselves about whether we have achieved a successful negotiation:

- When you have let something enter a resolution that has become more important than your interests, you have not achieved win-win.
- If reaching a resolution has become more important than your interests, you have not achieved a win-win, but a lose-lose.

The goal of a negotiation is not to win, nor is it to compromise:

- The goal of a negotiation is to satisfy MY interests.
- The means is to focus on THEIR interests.

That does not mean giving in to their interests, but rather to focus on their interests. This method of negotiation is different from your counterpart losing something or being unsuccessful. It is also different from everything we learn in our culture about negotiation.

Three possible strategies are available to us during negotiations:

Strategy No. 1 Goal: Achieve my interests
Means: Defeat their interests

Strategy No. 2 Goal: Achieve my interests
Means: Focus on my interests only

Strategy No. 3 Goal: Achieve my interests
Means: Focus on the interests of both sides

Let's look at each of these strategies:

Defeat them — that is, beat them into the ground. This is the "Attila the Hun" technique. You go into a negotiation, and your counterpart tells you what he wants. You tell him what you want, and he or she spends all of his or her energy telling you why you are wrong, because the goal is to defeat you. It is not a particularly effective technique.

Focus on my interests only. This could also be called the "thank you for sharing" technique. This happens when you go into a negotiation, explain what you want, and the other side explains what it wants. Then when you try to proceed to the next step, the other side tells you what it wants again, as though you did not hear them the first time. All of their energy goes into justifying their position because their goal is to focus on their own interests. They have no interest in hearing your position at all.

The third strategy is to achieve the interests of both sides. This is the most confusing strategy of the three, because you have to focus on the interests of both sides. This is the compromise solution, sometimes called "the search for the lowest common denominator." You might hear someone come out of one of these negotiations saying, "I thought it was awful, but the other side thought it was awful, too, so it must have been a good resolution." Do any of us really believe that two "awfuls" make a nice? Compromise is not an appropriate way to negotiate. Both sides leave the table unhappy. We do not want to come out of a negotiation with a compromise. What we want is to find a creative solution.

A BETTER WAY

Finding a creative solution is a skill that architects and engineers have in abundance and practice all the time: It is called design. You start with programming, asking the clients about their interests in detail. Then you combine your interests as a designer with the clients' needs to develop design alternatives.

This is exactly how you should negotiate — as though you were in the programming phase of a project. Architects and engineers know the technique, but have trouble figuring out how to apply it to the situation during a negotiation.

Architects are great at negotiating on behalf of design. They will go to the mat to make sure the client retains and respects the design's integrity, but they do not do a very good job on behalf of their own interests.

The goal of a negotiation is to achieve my interests by focusing on their interests, just as you do when you are designing. This is the only way to produce a true win-win solution. It also forces you to reach for creative solutions. You cannot do that unless you understand the other party's interests. You have to put time into delving into its interests and looking for the matchups between you that will lead to creative solutions that will satisfy your interests.

CASE STUDY

The epicenter of an earthquake was located directly under the campus of a government agency. Almost every building had damage. The agency selected an architect that was working on another project at the campus, in tandem with a local firm, to repair the buildings. They were invited to negotiate an agreement for these repairs. The agency asked the firms to prepare estimates for the medical building, which was severely damaged and required demolition and replacement, and also asked for ideas of what to do about the other 25 damaged buildings.

The architects negotiated a fixed fee for the medical office building, but told the client that they could not accurately provide an estimate for the 25 damaged buildings.

The client's representative said, "Let's talk about the work on the other 25 buildings." The architects responded, "We can't discuss this yet. We haven't even been inside some of these buildings yet to assess the damage, so we do not know the extent of repairs needed." The client's representative said, "I understand that, but you will have to take a fixed fee of $1.3 million to do the repair work on those 25 buildings."

The architect told the officer that he did not understand what architects do, they did not know what the scope would be, and the team could not possibly accept the fee. The architect spent 20 minutes yelling at the client, which usually is not effective. At the end of his tirade, the contracting officer said, "You make a good point. It's still $1.3 million."

The engineer, who had remained quiet during this, said to his partner, "Let's go out of the room and have a conversation." They went to lunch and the engineer said, "When we go back to the negotiation, give me an hour. If we haven't settled in an hour, we'll go home; but during that hour you have to be quiet."

When they went back to the negotiating table, the contracting officer had consulted with his boss and confirmed that all they had was $1.3 million. They needed the joint venture partners to take that amount of money; there were no other options.

The engineer asked him a series of questions, but did not learn much until he got to this one: "How did you get the figure of $1.3 million?" The client said, "Last night a congressional committee made a special authorization of $10 million to fix the 25 damaged buildings. We met this morning before you got here, and nobody in our office can define this scope of work. We had to agree on the highest number we could offer you for design as a percent of construction, so we came up with 13%. Thirteen percent of $10 million is $1.3 million."

The engineer asked, "What if you get more money?" The client said the committee also stated that $10 million was the maximum for the project. The engineer persisted, "But what if you do get more money?"

"If I get more money, I will give you 13% of whatever additional construction monies I get," said the client. The engineer said, "Write that down." The client asked, "What? Are you taking the $1.3 million?" And the engineer said, "Will you agree that if you get more money above the $10 million, that you will give 13% of it, no matter what it is?" And the client replied, "Can I go upstairs and tell them your team took the $1.3 million offer?" The engineer replied, "If you will add that clause, we have a deal."

In the end, the client spent $110 million from additional government authorizations for the 25 damaged buildings. All with a 13% fee!

What is the point of this case study? In that negotiation, the engineer focused on the client's interests. He did not say one word about what he needed; he focused on what was going on with the client and saw the opportunity for a creative solution.

Your job as a negotiator will be to achieve your interests and figure out how to be creative in developing solutions to the problem.

This is the type of negotiation that works. It is hard work, and it goes slowly sometimes. You have to put in a new kind of effort that you have never thought about putting in before. This means changing your behavior and thinking in new and different ways about negotiations.

You already know the method: It is design. Now you just need to learn how to apply it to the negotiation process. Your job as a negotiator will be to achieve your interests and figure out how to be creative in developing solutions to the problem. ■

Portions of this article are excerpted from Steve's book, Negotiate With Confidence: Field-tested Ways to Get the Value You Deserve (Greenway Communications, 2013), now available at Amazon.com

Steven J. Isaacs *is a division manager for Architecture and Engineering Consulting Services at FMI Corporation. He can be reached at 925.934.7200 or via email at sisaacs@fminet.com.*

Differentiation: Beyond Value Add

#35

By Bryan Kucinski

FMI recently attended a popular construction trade show in Las Vegas and spent time with several current clients as well as other companies. We discussed various aspects of the industry, the state of their business and path-forward related topics. We spoke with contractors, associations, building products companies and equipment manufacturers to understand what those organizations do, what they sell, how they market, and what challenges they face.

Nearly all of them use the terms "value add" and "differentiation" when discussing their products, services or how they execute projects. There is a continual disconnect in organizations concerning the definition of these terms. Differentiation alone is not "value add." Value add involves that "extra" customers receive for the price they pay. To have real differentiation, it requires an organization to produce "unique" products or services with little to no competition and a lower sensitivity to price. Differentiation requires an organization to reach much further than just a little extra.

What core pillars make an organization fundamentally operable before it adds value and then differentiates itself from other companies? At the core, four definable characteristics should exist in an organization, thus creating an environment where differentiation can grow. These are operational execution, strategic excellence and strong human capital supported by the fourth, adaptive improvement.

Operational execution is generally an internal component of processes, systems and structures. Operational execution drives the organization like the engine in a vehicle. Strategic excellence is an external component that defines doing the "right" things in the markets with the highest level of excellence. It is being in the right places, at the right times, with the right products and services. Strong human capital is all about an organization's people. This pillar is both external and internal and suggests having the right individuals, in the right positions, delivering excellent work with strong leadership at the helm.

The first three characteristics are supported by the fourth, adaptive improvement. Operational execution, strategic excellence and strong human capital are floors of a building being constructed, while adaptive improvement is the tower crane lifting the proper pieces in proper order. Adaptive improvement is an organizational mechanism whereby the organization is continually measuring, researching and listening to internal and external needs. The organization then uses these metrics to make positive changes to operations, strategy and people. But where do "value add" and ultimately, differentiation, fit in here? Many organizations believe if they do these core characteristics well that they effectively deliver value add and, with some distinctive twists, differentiation. However, many organizations do the above well but are still only "me too" organizations. You have to reach much further today to deliver differentiation. The market demands it.

When a business desires to deliver true differentiation, a change in thinking and definition needs to take place first.

When a business desires to deliver true differentiation, a change in thinking and definition needs to take place first including the assessment of the four characteristics mentioned above. Think of this with the common "good, better, best" strategy. Good strategies are generally based on price with no real differentiators. Better strategies contain some aspects of value to the customer that make you better than the next person. Best strategies are where differentiation sits and says, "You are like no one else." But how does an organization develop this type of differentiation? It does not happen overnight. It takes time and execution of some key factors.

The one factor most missed is actually taking the risk when good research suggests the possibility of a strong return. This involves two main elements. One, you have to do proper investigation and research your approach. The second element requires that you develop a clear strategy and act on the data. Sounds simple, but many companies make risky decisions with neither valid investigation and research nor clear strategy. They miss the mark and often land in the "me-too" world or some degree of "value add." These organizations do not always fail. Some organizations that deliver standardized projects or commodity products do very well. Many even create real value-added solutions to customers. Many are happy to continue doing just that. However, when an organization desires to deliver differentiation, the risk is high, and clear focus on strong investigative research is a must.

One particular product company does these core pillars well. In many aspects, it is a best-in-class organization. It is known for delivering high-quality products and great service in the right markets. It hires qualified people and has high retention and strong leadership. More than a decade ago, this organization desired to develop a new product to compete in a product category where its core competencies had a strong fit. After several years of development, it made a risky decision to scratch the project and start over. This company spent sizable dollars, invested many man-hours and had a decent product nearly ready to go. But it wanted to go bigger.

This organization had developed new technology that suggested it could develop this product with an electrical drive system stronger and more efficient than anyone thought possible. Through thorough research, it discovered that there was a clear possibility not only to outperform the electrical class of products it would compete with, but also to challenge (and potentially outperform) various products in the much stronger hydraulic class of products. The research overwhelmingly suggested a sizable marketplace and contained valuable customer feedback that this new differentiated product would not only be unique but also in high demand. This confirmed the initial hypothesis that suggested it could create an entirely new class of product performance. So it started over again, scrapping old ideas and thinking much bigger. After 10 years of development, the product launched and has been a great success. Not only did the company continue the value add it is known for, but it also developed clear differentiation in the market. It changed market perceptions in many ways. The product is clearly a value add, but also to have this product perform at or better than its counterparts in a completely different class is true differentiation.

The risk for an organization is that differentiation really lies in the high-payout, high-risk bet.

Being in Las Vegas, one may think of gambling as an analogy concerning what it takes to gain a return on risk when relying on faulty data for the decisions. One game in particular comes to mind. Roulette. This game is quite interesting and risky in many respects. There are various levels in the betting process. You can bet on a color or odd or even numbers, and if you win, you are paid 1:1. You can increase your payout, but you have to narrow the field for your bet. You can bet on a block of numbers from 12 at one time, down to two. The lower the quantity of numbers you bet, the bigger the payout. The most risky bet is the single number. If you bet on a single number and win, it pays 35:1.

The risk for an organization is that differentiation really lies in the high-payout, high-risk bet. It may not always be the single number bet, but it is the high-risk, high-reward bet that defines differentiation's risk. However, there is a pitfall waiting for the player in roulette. A display board is always present showing that last 12-18 numbers that were played. The game of roulette is a game of chance where the house has a 5.26% edge that no strategy can overcome. Many players try and "game" their bet by relying on some pattern in the display board. Nearly all professional roulette books, websites and authors will tell you that no such ability exists. In creating real differentiation for an organization, roulette gives us two valuable lessons. One, risk is part of the reward. But two, without proper data to suggest a clear direction and outcome, it is just a bet.

There are steps construction products organizations can take to break the house edge when placing their bets. First, assess the four characteristics; operational execution, strategic excellence, strong human capital and adaptive improvement. Study the game first and then build the healthy organization that many are fearful of building. Second, develop robust research, strategy and decision making practices. Third, begin taking some risk on differentiation (or even start with value add) but without roulette's false information follies. Lastly, start pushing the drivers — strong leadership, consistency in the market, routine measurement, customer voice and forward vision. ■

Bryan Kucinski *is manager of strategic accounts at FMI Corporation. He can be reached at 303.398.7225 or via email at bkucinski@fminet.com.*

When Best Practices Hurt

By Jim Schug

#36

Many companies have created initiatives to emplace best practices as a solution to the change around them. As the recession subsides and new work becomes apparent, hiring and growth create a demand for more structure in how we execute. A great set of best practices can help decrease organizational risk and improve profitability.

Like most good intentions, many times companies develop best practices and implement them poorly. Done incorrectly, morale decreases, project losses increase due to bureaucracy, and, ultimately, the company suffers from reduced profit. In some cases, companies spend significant time and energy developing their playbook, only to have it stagnate after two to three years and become only a memory. Best practices should be developed to become a communication tool and working document that synchronizes how we do things.

There are three major causes for how best practice initiatives can end up hurting the company and reducing ability to execute. These include a lack of tie-in to the company structure and strategy, focus on processes only and a general disregard for the people behind the behavioral changes and best practices that reflect a continuous learning environment and adjust over time. The proper implementation of best practices is designed to address these shortcomings and ensure lasting success. Each is discussed in detail below:

NO TIE-IN

Best practices must be customized to fit each company. Too often, we cut and paste a best practice from a peer contractor or another company and expect it will work. As no two construction companies are the same, no two best practices or standard operating processes should be the same, either.

Companies often vary by structural organization. This may be the difference between a matrixed organization and a functional task-organized company. At the project-team level, many companies have project engineers or project administrators; some have working foremen or area superintendents. In some cases, project estimators and project managers are the same roles; in others, the estimators conduct vendor and subcontractor buyout. These structural subtleties require a customized best practice and adjustments to roles and responsibilities.

Great leaders recognize the value of best practices is that behaviors are changed. Changing behavior is difficult and best influenced with leadership.

In addition, businesses may have different customer sets. Best practices developed for a public works contractor (i.e., DOT work) will differ significantly from a private-work contractor (i.e., work for developers). Standards adjust for companies that build in one metro area or city compared to contractors that conduct work over several states. Job size may also be a driver of change in best practices. Companies that conduct many small jobs should have a different operational plan than those that build only a few large jobs. As companies shift their strategy over time, they must adapt their best practices to those changes.

A clear and cohesive method for managing the chaos of construction allows contractors the ability to expand geographically or grow their business profitably. Unfortunately, these same positive results can often lead to the undoing of operational best practices if left untouched. The same standards that led them to success must be revised and updated continually to remain relevant and valuable.

PROCESS ONLY

Best practices can be misinterpreted as forms, documents, checklists and binders. Many companies have standard operating procedures that are not used as a standard. The most important dimension of best practices is that the people follow them. Great leaders recognize the value of best practices is that behaviors are changed. Changing behavior is difficult and best influenced with leadership.

In too many companies, the senior leadership team develops best practices and thrusts them upon middle management. A best practice can be called "best" only when those who will be executing it deem it so. Although time consuming, this occurs when middle management and those executing the work develop the best practice with the support and guidance of senior leadership.

The true difficultly leadership faces in changing behaviors is to sustain buy-in while holding people accountable. Rigid enforcement does not work and can be just as ineffective as not holding anyone responsible in the first place. Change is tough and good leaders know to expect some resistance to it. At the same time, good leaders must be able to have tough conversations and provide feedback to those who will not comply with best practices. People need feedback to sustain behavioral change. Feedback includes quantified positive results obtained from using the best practices (e.g., improved profit margins, decreased waste, faster projects, etc.)

Great leaders reinforce importance of best practices and company values at every instance possible. When leaders are engaged so, too, are their followers.

ONE AND DONE

Best practices must continually adapt to keep pace with the learning organization. Typically, the first development of standard operating procedures takes the longest to create (Version 1.0). Version 2.0 is the first true refinement to ensure good fit and typically happens after six months to a year of use to work out the bugs, formatting and usefulness. Following that adjustment, successive changes should be minor adaptations that reflect lessons learned across project teams. For instance, after completion of a project in a new county, the company may add a bullet in the pre-job planning section to reflect the change in timeline for utility requests required in that new county. Done correctly, this addition will help prevent that mistake by anyone else in the company operating in new geographies.

Best practices do not remain stagnant after initial development. A best practice developed in a certain period and must adjust over time. Even when the company executes the same strategy, the best practice will change, as new materials become available, contract terms shift over time, municipal requirements adjust and means and methods become more efficient. "Written in stone" sets of best practices are a symptom of companies that do not continuously learn and change over time. Best practices should reflect these improvements and adjust appropriately.

Best practices do not remain stagnant after initial development. A best practice developed in a certain period and must adjust over time.

Many companies gain customer feedback on their project performance. Some gain feedback from subcontractors and vendors. The end state of a well-executed set of best practices is a satisfied customer at an improved (lower) cost. Done correctly, we should regularly ask for feedback from our customers to ensure our best practices deliver value. This feedback on our performance may help adjust our best practices and identify methods to improve performance or address an incorrect customer perception.

As time progresses, natural attrition brings new employees and leaders to the company. These new ideas can help shape the best practices. Newer employees use best practices as guidelines to understand how things work. After some exposure, they are best suited to ask "why" questions and challenge the effectiveness of the operating procedures. This allows for continued improvement.

CONCLUSION

Best-in-class contractors recognize the importance of using best practices. Effectively developed and employed, construction companies can win more projects on bid day while making more profit than their competition. Common pitfalls described earlier must be avoided to ensure long-term success. Incorrectly done, the development of a company playbook may have a maximum life span of 18 months or less. Done correctly an organization can build a sense of ownership across the company and buy-in to continually communicate and improve execution. ■

Jim Schug *is a senior consultant with FMI Corporation. He can be reached at 813.636.1254 or via email at jschug@fminet.com*

Teamwork Without Groupthink

by Wallace Marshall

#37

The value of teamwork has been emphasized for so long that it is hardly necessary to make a case for its importance, and the basic essentials of a positively functioning team are a well-worn theme in books on management and leadership. What is less well-known is a growing but highly important body of research revealing the dangerous "groupthink" phenomenon that results from overfocusing on teams to the exclusion or diminishing of individual activity and responsibility.

This article reviews and reinforces four essentials of good teamwork, explains the dangers of groupthink, and offers some suggestions for achieving an optimal balance between team and individual activity.

FOUR ESSENTIALS OF GOOD TEAMWORK

Whatever the dangers of teamwork, teams are a fact of life. Many, if not most, of the tasks we perform, in our families and much more so in our businesses, require multiple people to accomplish. So it behooves us to make the most of these situations. With that in mind, let's review four essential characteristics of a smoothly functioning team.

Leadership

Most of us have heard the old joke about a camel being a horse designed by a committee. The No. 1 factor behind this problem is the absence of leadership. Without leadership, it is nearly impossible to harness the activities of the group and point it in a common direction. A large project may require a team with multiple leaders, but even then, it is essential for those sub-leaders to report to a single person who assumes final responsibility for directing the group's individual capabilities to achieving its goals.

The best leader for a team is often not the most senior or the most charismatic member of the team. Seniority and charisma may be factors in choosing a leader, but the primary criteria should be (1) ability to communicate clearly; (2) clear understanding of the goals to be achieved; (3) general familiarity with the variety of activities the team will engage in; and (4) available and dedicated time to carrying out the duties involved in leading the project.

A team functions best when tasks are allocated to the people who are most qualified and have the available time to execute them. Note that qualification is not the only factor.

Task Allocation

A team functions best when tasks are allocated to the people who are most qualified and have the available time to execute them. Note that qualification is not the only factor. A 10-person team may have two members that are most qualified to perform all of the team's tasks; but rarely will those two people have available time to accept that much responsibility, so qualifications have to occupy a subsidiary position relative to the commitments of time each member is willing to accept.

Even on the assumption of equal available time, it is sometimes appropriate to assign tasks to a less-qualified person. This commonly occurs when there is a desire to train an employee to acquire new skills. Nothing is wrong with this, and it illustrates that team goals cannot be carried out in isolation from broader corporate objectives. But much frustration can be avoided if this broader goal is specifically acknowledged at the outset so that the rest of the team acknowledges that the individual in training faces a learning curve and thus will require more time and support to execute his or her responsibilities.

Do not overlook the fact that this support function is itself a team task that needs to be assigned and acknowledged by the person or people who will be proffering it. Otherwise, a negative dynamic will ensue where assistance is grudgingly offered, resulting in the trainee not reaching out for assistance often enough and a sub-par work product.

Communication

This characteristic is obvious but can scarcely be overemphasized. Nothing hinders the proper functioning of a team more than a failure to communicate frequently and clearly. One of the key responsibilities of the team leader is to ensure that lines of communication are established and remain open.

Two caveats regarding the use of email communication.

As helpful as electronic communication is, it should never take the place of oral communication via phone and face to face. Many people are not good writers and they often are not good readers, either. Written communication needs to be supplemented and reinforced by oral communication. Team members should also be encouraged to consider whether oral or email communication is more efficient for a given purpose. We have all had the experience of an hour-long string of back-and-forth emails that could have been avoided if someone had simply picked up the phone and engaged in a five-minute conversation.

The second caveat is to avoid redundant copying in email communication. Since one of the primary factors behind this redundancy is a "CYA" mentality, it is essential for teams to develop and retain an open and trusting environment. Encourage team members to a judicious use of the "cc" and "Reply-to-All" functions. Failure to do so results in needless energy being consumed by team members and especially by team leaders. It also develops a propensity to ignore or glide over messages, which can be highly damaging when a message comes along that really is important to the recipient.

CONFLICT RESOLUTION

Even the best of teams cannot completely avoid conflict. Team projects involve numerous decisions on which members often will not see eye to eye. Resolving these conflicts is one of the most important responsibilities of a team leader, though the responsibility does not rest solely on the leader. Here are some tips for minimizing and resolving conflicts.

Even the best of teams cannot completely avoid conflict. Team projects involve numerous decisions on which members often will not see eye to eye.

First, stress to the team at the outset of the project that "we are going to have some conflicts, and that's OK." This will make the conflicts less personal when they do occur. Second, lay out a method for resolving and, where necessary, escalating conflicts. Encourage members to resolve conflicts among themselves before escalating them. Third, encourage the airing of differences of perspective in team meetings. Fourth and finally, leaders must resolve conflicts impartially, based on what most contributes to the accomplishment of group goals. Members will more easily reconcile themselves to resolutions that go against their opinion if they feel that their opinion has at least been given a fair hearing and that the leader is doing his or her best to resolve conflicts with the goals of the group rather than personal prejudices in mind.

THE DANGERS OF GROUPTHINK

Can there be such a thing as too much teamwork? Are well-oiled teams that adhere to the above criteria all that are necessary for achieving success?

Unfortunately, no. Sociologists and organizational psychologists increasingly have become aware that too much focus on teamwork can dramatically reduce productivity levels in the workplace. Their most obvious finding — and one most of us can probably relate to in our personal experience — is that mental focus has a marked tendency to dissipate in group settings. Although group conversations can certainly stimulate thought, our more common reaction is to park our brains in neutral or semineutral and let the group do the thinking for us.

Problem-solving skills also are diminished. The most ingenious solutions are often the product of sustained concentration. Even if members of a group are not downshifting their mental apparatus during a meeting, the fact that multiple people are speaking means that trains of thought are not likely to persist for very long before being interrupted, especially if the group is marked by the (otherwise positive) characteristic of sympathetic listening.

Group settings also tend to hinder creativity. This is particularly true for the most creative personality types, who are generally introverts and thus tend to work far better in private than they do around others. But the rule seems to hold for other personality types as well. As Susan Cain observes in a fascinating New York Times article published in 2012, when it comes to generating ideas, "decades of research show that individuals almost always perform better than groups in both quality and quantity, and group performance gets worse as group size increases."[1]

One of the biggest reasons for this phenomenon is the social conformity bias that comes into play in group settings. In her 2012 book, Quiet, Cain summarizes a 2005 study led by Gregory Burns, a neuroscientist at Emory University. Burns was well aware of the classic studies conducted during the 1950s by psychologist Solomon Asch. These studies showed that conformity bias could dramatically reduce the percentage of correct answers given by group members to relatively simple questions. Burns wanted to conduct a similar experiment using brain imaging in order to find out the extent to which group members affected by conformity bias committed their errors wittingly or unwittingly.

The subjects in Burns' experiment demonstrated the same conformity bias participants in Asch's study had exhibited and functional magnetic resonance imaging (fMRI) imaging revealed that when they made their errors under the influence of this bias, heightened brain activity occurred not in the prefrontal cortex associated with decision-making, but rather in regions associated with spatial and visual perception. This indicated that error-prone subjects were not simply selecting an answer they knew to be wrong in order to fit in with the group, but actually had their cognitive perception reshaped by group factors.[2]

Group settings, then, are hardly a panacea. They have a demonstrated tendency to dissipate mental energy, interrupt concentration, diminish creativity and cloud objective thinking. The larger the group, the stronger these tendencies will be.

TEAMWORK WITHOUT GROUPTHINK

One clear conclusion that emerges from these studies is that teamwork comes at a price or, at the very least, with dangers that need to be taken into account if teams are to function at their highest level. Here are some rules for doing that.

Educate Your Teams. As the old adage goes, identifying the problem is half the solution. A first and simple step management can take to avoid the dangers of groupthink is to teach its employees about those dangers. People who are aware of the common pitfalls of group meetings will be less likely to fall into them.

Create Space and Time for Your People to Work Alone. This is the most important lesson to learn from studies on groupthink. A recent Wall Street Journal article bore the headline, "Logging How 500 CEOs Spend the Day; Little Time to Think." The article summarized the results of a joint study by the London School of Economics and Harvard Business School that delved into the day-to-day activities of 500 CEOs. The researchers found in an average 55-hour week, CEOs spent a measly six hours working alone. Three times that amount was consumed by meetings.[3]

If the average employee needs time alone, this is even truer for leaders and other figures within a company who shoulder a larger share of responsibility for innovation and strategic direction. It is essential to create space and time for sustained focus on the issues facing your company. This is all the more vital in an age of email, the Internet, cell phones and smartphones. For all the benefits of these modern communication tools, numerous studies have shown that if they are not managed intelligently, they have a tremendous potential to fragment our concentration, reshape our brain patterns and even create genuine addiction.

It is essential to create space and time for sustained focus on the issues facing your company.

Research has confirmed that the familiar buzzes and bells alerting us to a new message actually trigger a small release of dopamine in our brains, presumably because we associate these alerts with the pleasure of finding out something different and interesting. As Matt Richtel, technology reporter for the New York Times, explains:

> When you check your information, when you get a buzz in your pocket, when you get a ring — you get what they call a dopamine squirt. You get a little rush of adrenaline. Well, guess what happens in its absence? You feel bored. You're conditioned by a neurological response: 'Check me, check me, check me, check me.'[4]

Once this addiction is in place, it reduces our capacity for sustained concentration because our brains have become wired to anticipate, and even crave, an interruption.

Most of us are all too familiar with the way this phenomenon constantly invades the workplace, to say nothing of our personal lives. It is rare to attend a meeting in which all the attendees are "really there" all the time. Combine this phenomenon with an undisciplined embrace of group culture and the result is an organization whose collective capacity for serious strategic thinking and innovation will be significantly diminished.

Create a Culture of Preparing for Meetings by Thinking. The concern here is not the ordinary, functional preparation for meetings we are all familiar with, but rather, the preparation of thinking. This is a particularly important point for team leaders. When you lay out the agenda for the meeting, write a few bullets, or one bullet, summarizing the key questions that will be on the table and specifically encourage the team to spend time reflecting on those issues in advance.

Create a culture where people who attend meetings will expect to be asked to share with the group the results of their prior thinking. Once that expectation is firmly in place, it will fundamentally change the way people prepare and will vastly improve both the liveliness and quality of the meeting. It will also counteract the conformity bias. People who have thought out and articulated their ideas in private will be much less likely to adopt the ideas of the dominant personalities in the group.

Optimize Brainstorming. The best kind of brainstorming results from individual brainstorming followed by group brainstorming. As discussed above, the value of individual brainstorming is that it tends to produce more and better ideas than would be the case if a person does his or her brainstorming while in the company of a group.

The value of the group, of course, is that it provides a forum for individual ideas to be compared, critiqued and refined.

CONCLUSION

If groupthink presents a danger to be avoided, it also presents a tremendous opportunity to unlock, harness and develop your firm's intellectual capital. And because so many companies are unaware of the danger, and fewer still are addressing it, the potential gains are far from incremental. Transforming your organizational culture in this way will not occur overnight and will require strong leadership that practices what it preaches. However, once it is accomplished, it will fundamentally differentiate your company and create an advantage competitors will not be able to replicate easily. ■

Wallace Marshall *is a consultant with FMI Corporation. He can be reached at 919.785.9279 or via email at wmarshall@fminet.com.*

[1] Cain, Susan. The Rise of the New Groupthink. New York Times, 15 January 2012, page SR1.

[2] Cain, Susan. Quiet: The Power of Introverts in a World That Can't Stop Talking (New York: Crown Publishing 2012), 90–92. Numerous studies have shown that women are more susceptible to this bias than men are, though the causes for this divergence are a matter of some debate. See Steven Breckler, James Olson and Elizabeth Wiggins, Social Psychology Alive (Belmont, Calif.: Thomson Wadsworth, 2006), 318–319.

[3] Silverman, Rachel Emma Silverman. Where's the Boss? Trapped in a Meeting: Logging How 500 CEO's Spend the Day; Little Time to Think. Wall Street Journal, 14 February 2012. http://online.wsj.com/article/SB10001424052970204642604577215013504567548.html

[4] "Digital Overload: Your Brain on Gadgets." Matt Richtel, Interview with Terry Gross on NPR's Fresh Air, 24 August 2010. http://www.npr.org/templates/story/story.php?storyId=129384107

Feedback: Improving the Communication Flow

#38

By Tom Alafat

Giving and receiving feedback is an essential part of communication. In today's global environment, the ability to communicate effectively and quickly over several mediums is important to success. In today's team-based, fast-paced work environments, getting feedback must become a way of life. It is as essential to good leadership as keeping your eyes on the road is to safe driving. Feedback makes you aware of how you are doing and what you can do to develop and improve. It builds trust in your relationships.

The topic of feedback is hot in today's marketplace. Employees are eager to know what is expected of them, how they are doing, and what they need to do to receive greater responsibilities and rewards. Employers are also eager to implement feedback tools and systems so that they can determine how they are doing in the eyes of their customers and employees. Best-of-class organizations also use feedback to help identify areas of success and developmental opportunities for their upcoming leaders.

Feedback is the communication an individual or organization receives from others about how they are perceived, the positive and/or negative impact they are having, and how well they are living up to the expectations of others.

When was the last time you received feedback about how you are doing from someone within your organization, a friend or a family member? Perhaps a customer wrote you a letter telling you how much it meant to her that you had the dedication to ensure that every item was taken care of on the punch list?

Regardless of whether the feedback comes in the form of praise or constructive criticism, it has many potential organizational and individual benefits:

Feedback builds trust with others both professionally and personally. Seeking feedback from others shows that you value input and are secure enough to hear how you can be more effective. Consider how this works: You solicit input either through a formal evaluation process or in a casual setting such as a meal. Once your strengths and growth areas have been identified, you let key people know that you want their help to improve in the growth areas and encouragement to do more of what you do well. Most people will offer you sincere feedback and admire you for involving them and having the courage to be unguarded. They will also trust you more because of the trust in them that you showed.

Feedback facilitates personal growth and prompts change. Remember the story of the emperor who wore no clothes? No one wanted to make him feel bad by telling him an embarrassing truth that was obvious to all. The result was that the emperor never became aware of his blind spot — his unawareness of his inappropriate nudity — while those in his kingdom lost respect for him. We all have blind spots. Feedback from those who work closely with us will help us discover what they are.

Most of us want to do more of the things that encourage others and less of the things that hinder our effectiveness with others. One man received personal 360-degree feedback for the first time at an FMI Leadership Institute. More than a dozen people confirmed that this man treated subordinates as having little or no value. As the message sank in, he began to reflect on a personal history of pain and relational emptiness. For him, it was an "aha" experience that eventually led to changing how he approached others.

Feedback is useful in determining future action plans. Constructive feedback helps us find out what others value most about our contributions. We are tempted to throw our energies into overcoming personal shortfalls. Although we do need to work on these areas, especially if they are interpersonal communication weaknesses, there is generally a greater payoff in developing our areas of strength, and it is usually easier to leverage a strength than to improve a weakness. After all, these strengths are why we were hired to begin with and are the major contribution we make to the organization.

This is not to suggest that we should not work on our weaknesses. We should, especially if they limit our credibility with others. For example, consider John, a talented project manager who is technically sound but who runs other talented staff off the job or out of the company. Eventually, John is given the choice to work on his people and leadership skills or be fired.

Feedback is critical for the coaching process. Most successful people can usually point to a key person in their lives who took a personal interest in them and became a role model or mentor, able to offer words of encouragement, wisdom and instruction at pivotal moments. All of us need someone who sees our potential and is willing to invest in us. We should seek to be that person in someone's life and, conversely, to have someone who is that person in our life. We should assume that those around us are eager to learn (until they demonstrate otherwise) and be willing to take the time to help them succeed.

Feedback builds self-esteem. People who are sincere in their search for self-improvement and seek to foster growth in others do not rely on shallow communication techniques. Instead, they opt for the arduous task of learning about themselves and developing personal integrity. Improvement in performance and relational skills — and therefore self-esteem — emerges as a byproduct of the real changes in character that take place.

Welcoming feedback is essential to good communication and collaboration because it makes you aware of how you are doing and what you can do to develop and improve, and it builds trust in your relationships. If you have set developmental goals for yourself, feedback from others reinforces the changes you are making, inspires confidence and provides hope for further growth. Providing feedback can help others realize these same benefits.

Feedback is more important than ever because many members of the so-called "Generations X and Y" desire and thrive on it. Feedback is a key factor in the development and retention of this generation of workers.

If you want to increase the chance that you are communicating effectively, then you need to understand that the message people receive is determined largely by what they observe as they watch you talk. Negative body language and tone of voice make it difficult for the words you are saying to be absorbed. Exhibit 1 contrasts positive and negative body language characteristics.

Being a good listener is also an essential communication skill. Listening involves more than simply hearing the words a person says; you must also interact with that person to ensure you understand his or her message. Exhibit 2 contrasts good and poor listening skills.

Most people do not like to give criticism. Although this feedback can be difficult to give, you have an obligation to give it so that the people you interact with can experience the same benefits you get when you receive it. The following steps are helpful when providing someone with feedback aimed at improving an aspect of his or her performance or behavior.

- **Describe Behavior.** Tell the other person what he or she is doing and why it is causing a problem. Describe behavior, not intentions or motives. This approach can lead to clearer agreement on actual performance.

Exhibit 1

Body Language in Communication

Communicates Acceptance	Communicates Skepticism
Relaxing your body	Sitting rigidly
Orienting your body directly toward	Looking at something else
Making direct eye contact	Staring as if annoyed
Keeping your palms open	Keeping your hands clenched
Keeping your arms and legs unfolded	Crossing your arms and folding your legs away from the person
Smiling or nodding	Frowning
Leaning toward the person	Sitting at a distance from the person
Showing animation and interest	Putting your hand over your mouth, rubbing your eyes, glancing at your watch, drumming on your desk, doodling, etc.

Exhibit 2

Listing in Communication

Good Listening Skills	Poor Listening Skills
Making eye contact	Looking at the ground
Letting people finish their point	Interrupting
Asking clarifying questions	Jumping to conclusions
Restating/paraphrasing to ensure you understand	Finishing other people's sentences
Seeking first to understand	Reacting hastily and speaking as if a parent to a child
Staying poised	Getting impatient or angry
Keeping focused/staying on subject	Thinking about what to say next instead of focusing on what the person is saying

- **Specify Change.** Ask for a specific change in the undesirable behavior. Make the change reasonable. Tell what you are also willing to change to make this agreement work. Agree on the plan for change.
- **Stay Focused.** Be gentle, yet firm, and do not allow the person to sidetrack the conversation. He or she can do this in a variety of ways, such as defending his or her actions, verbally attacking you, or becoming self-deprecating, to name a few. Keep the person focused on the changes you need to see and a mutually agreed-upon plan to achieve the objectives.
- **Convey Consequences.** State the positive outcome of making the behavior change, as well as the negative and inevitable consequences of continuing in old ways.

Whenever you give any kind of feedback, you should use good listening skills, be aware of what your body language is communicating, and control the tone of voice you are using. You should also know what issues to consider and feedback tools to use, depending on the context in which the feedback will be given. When giving feedback, remember that each person's unique talents can provide worth. It is important that everyone feels respected and valued. In conducting exit interviews of employees leaving a company, we have observed that the most common reason people decide to leave an organization is a personal-relationship difference or conflict — most often with a supervisor.

Giving feedback is a significant leadership skill. When given well, it encourages, motivates and grows people. When done poorly, it can crush the spirit of people, induce poor performance and utterly demotivate a workforce. Research has shown that leaders and managers who give consistent, authentic and helpful feedback are perceived by others as being much more effective than those who give poor or no feedback. Make feedback a natural part of the daily environment of your workplace and watch morale and performance improve. ■

Tom Alafat *is a principal with FMI Corporation. He can be reached at 303.398.7209 or via email at talafat@fminet.com.*

Get Them While They're Young

By Kelley Chisholm

#39

Companies that have not been thinking down the road in terms of their future workforce must do so now. The construction industry has long battled an inconsistent image. Many people perceive construction-related work as dirty, difficult, dangerous, low-paying, unethical and discriminatory to women. In addition, many people who lost their jobs over the past several years have turned to other lines of work. How will the industry ensure that it can attract the best and the brightest as soon as the economy rebounds and the war for talent reignites? How do we get people interested in the industry now?

One of the best ways to start attracting people to the industry is to make today's youth aware of the different types of opportunities in the built environment. This is not an easy task. Luckily, a number of programs exist to attract young people to construction. One of the most prominent is the ACE Mentor Program of America, Inc., which is striving to ensure that young people consider careers in architecture, construction and engineering.

ACE MENTORING PROGRAM

The principals of leading design and construction firms founded the ACE Mentor Program in 1994 as an innovative way to introduce high school students to career opportunities in the industry. Today, it is the construction industry's fastest-growing high school mentoring program, reaching more than 8,000 students annually. Its goal is to introduce students to career possibilities as well as to teach business skills such as effective communication, presentation skills, meeting deadlines, working as team members, etc.

Students learn about the various design professions and the role of each in planning, designing and constructing a project. Project teams are formed within a local ACE affiliate and usually include an owner firm, a design firm, an engineering firm and a construction manager or general contractor as well as participants from a local college or university with programs in architecture, engineering or construction management. Each team mentors approximately 20 to 30 students for part of the school year and meets at least 15 times. Students select a project and go through the entire design process, with help from the mentoring firms. The school year ends with a formal event where the teams present their projects.

The ACE Mentor Program has a presence in more than 200 American cities and is still growing.

The ACE Mentor Program has a presence in more than 200 American cities and is still growing. Thanks to the dedication of ACE's mentors and staff, and the support of local schools, more than 60,000 students have had the opportunity to explore the building, design and construction industry and consider it as a career choice. To learn more about ACE, please visit its website: http://www.acementor.org/.

BLOCK KIDS BUILDING PROGRAM

In 1989, the National Association of Women in Construction (NAWIC) introduced its Block Kids Building Program, which is geared toward elementary school children. The Block Kids program is a national building competition sponsored by local NAWIC chapters. Students from kindergarten to grade 6 are eligible to participate in the competition. They are given a variety of materials such as blocks, string and foil, and have one hour to build a structure of their choice. Winning projects are entered into a regional and national competition. These competitions help these students realize that building is an adventure and requires people in many functions to make it all happen. To learn more about Block Kids, please visit NAWIC's Education Foundation website: http://nawiceducation.wildapricot.org/.

HOME IMPROVEMENT STORE WORKSHOPS

Some of the national home improvement stores, such as Lowe's Home Improvement and Home Depot, have also developed classes for school-aged children. Home Depot has offered its Kids Workshop since 1997. Designed for children ages 5–12, the workshops are free and teach a variety of do-it-yourself skills and tool safety. Some of the projects have included the creation of toolboxes, fire trucks, birdhouses and mail organizers. Children who participate get to keep their project and receive a certificate of achievement, workshop apron and a commemorative pin.

Lowe's Build and Grow Kids Clinics are also free to young children. On Saturday mornings kids get to take a free class and build things such as wooden toys, birdhouses, picture frames, treasure boxes and games. Children get a free project kit, apron and goggles as well.

YOUTHBUILD USA

Founded in 1990, YouthBuild USA is a national nonprofit organization that works with unemployed and undereducated young people ages 16–24 to rebuild their communities and their lives. Those enrolled in this 10-month program work toward their GED or high school diplomas while learning construction skills by building affordable housing for low-income families and the homeless. There are 273 YouthBuild programs nationwide and in the Virgin Islands, with approximately 10,000 participants annually.

One of the main goals of YouthBuild is that participants return to school as well as find jobs in various construction trades. More than 120,000 YouthBuild students have produced more than 22,000 units of affordable (and increasingly green) housing since the organization formed. For more information, visit its website at https://youthbuild.org/.

CAREER FAIRS

A popular recruitment strategy for many construction companies and trade associations is to participate in high school career fairs, work with high school career counselors to promote jobs in the construction industry, and advertise construction-related scholarships. These efforts to improve the construction industry's image and reputation have recently started targeting even younger kids, starting as early as elementary school.

HELMETS TO HARDHATS

Helmets to Hardhats, a program to help military personnel find commercial construction jobs, was launched in January 2003 after a $3.4 million appropriation for the pilot program was approved by Congress as part of the Defense Appropriations Act. While it is not geared toward only the young, many of its participants are in their early- to mid-20s.

According to its website (http://www.helmetstohardhats.org/), "Helmets to Hardhats is a national, nonprofit program that connects National Guard, Reserve, retired and transitioning active-duty military service members with skilled training and quality career opportunities in the construction industry. The program is designed to help military service members successfully transition back into civilian life by offering them the means to secure a quality career in the construction industry."

Most of the program's career opportunities are connected to federally approved apprenticeship training programs at no cost to the veteran, and no prior experience is needed; in fact, most successful placements start with virtually no experience in their chosen field. Since these apprenticeship programs are regulated and approved at federal and state levels, veterans can use their Montgomery G.I.

Bill benefits to supplement their income while learning new skills and receiving on-the-job training.

The Helmets to Hardhats program is an excellent way for the construction industry to employ new workers who have already acquired the discipline and dependability as well as the leadership skills and the safety training that is emphasized by the military. Another is that these veterans offer the construction industry a steady labor pool, as many of them are looking to begin their careers without having to go to college or through technical training first. It certainly benefits the construction industry by alleviating labor shortages with candidates who have already received training in related skills. And it helps to ease the transition from military to civilian life by providing good career opportunities and benefits to those who have served their country.

Industry leaders, trade associations and other stakeholders must make efforts to expose today's young people to a career in construction.

FINAL THOUGHTS

There are various ways to attract people to the construction industry. Industry leaders, trade associations and other stakeholders must make efforts to expose today's young people to a career in construction, and getting involved with some of the organizations and programs mentioned in this article is an excellent way to start. ■

***Kelley Chisholm** is editor of FMI Quarterly. She can be reached at 919.782.9215 or via email at kchisholm@fminet.com.*

Continually Evaluate Ownership Transfer Issues

By Stuart Phoenix

#40

All privately held E&C companies face transition as owners retire and new owners take over their responsibilities. This can be disruptive in the case of companies with a single owner or smooth in the case of a company with broad ownership structure with ongoing leader development efforts.

FMI recommends all companies continually evaluate ownership transition issues, including how stock will be transferred and, probably more importantly, how leadership will be transitioned. A continual review is recommended as tax laws and structural opportunities can change, current owner objectives evolve and development of successor leaders is always a work in progress.

Most companies do not make it past the first generation of ownership; some make it to the second generation and a few go beyond. The reasons vary. Many owners never create value in their companies beyond themselves; in essence, they make a conscious or unconscious decision that their company will end when they retire. Some do not prepare a realistic technical transition plan. Others do not develop the successor leaders to take the business forward. FMI's experience is that companies that want to survive and prosper for generations can increase their odds of success with effective planning.

The questions those in charge of ownership transfer should answer on a regular basis are:

- Have current owner objectives changed? Does the plan still fulfill the objectives for selling and buying owners?
- Has the timing of expected sales by owners changed? Is the projection of stock sales and purchases updated annually?
- Who is signing for bonds and banking relationships, and how long will they be willing to do so? Who is expected to sign when those currently do

so stop, and will they?

- Who are the immediate, five- and 10-year expected successors for key positions? Who are projected to take key leaders position if current leaders retire, leave, die or are disabled? Are the future leaders prepared?
- What is the status of leader development plans for expected successors?
- What is the emergency plan for ownership and leadership if current owners or leaders die or are disabled?
- What are the M&A market trends affecting the company's value and transition opportunities?
- Are there any tax law changes that could affect the company structure or provide new transition opportunities?
- Are there alternative transition structures to consider such as going public, creating an ESOP, using a financial partner (private equity) or setting up a sister company?
- Are there acquisitions the company should consider that would enhance the ownership transition plan by strengthening the organization or providing growth opportunities for the upcoming leaders?
- Does the company have the financial and organizational capacity to support growth and transition?
- Does the transition plan attract talent to the company and support the company's recruiting effort?
- Does the company have relationships with appropriate outside advisors to implement and update transition plans?

Updating answers to these questions on a regular basis will enable your company to enhance its transition plan and potentially increase its transition options. It should also help you strengthen and create value in your business. Good luck with your transition! ■

Stuart Phoenix *is chairman of the board at FMI. He can be reached at 919.785.9241 or via email at sphoenix@fminet.com.*

What Exactly is Strategy Anyway?

By Brian Moore and Matt Kennedy

#41

One of the more difficult aspects of strategy is the many misunderstandings about exactly what strategy is and what it is not. FMI's definition of strategy is: the decisions you make about what you (collectively) envision for your company over the long term and, therefore, about where you will invest resources (time, treasure, talent) and how you will reap return on those investments. Elements of strategy include where the firm will compete (geographies, segments, owners, etc.) and how the company will compete (services, scopes, differentiators, etc.). Strategy may also include intrinsic goals that are value-based and do not deliver specific economic results.

FMI's perspective is that there are four common components that must be present to have truly exceptional company strategy. Those are strategic thinking, strategy development, strategic planning and strategy execution. The last two are the areas where the majority of leadership teams focus most of their time and attention and are the ones that are most familiar. In this article, we will explain the differences between each of these components; introduce some of the frameworks, tools and methodologies; and discuss why they are all important pieces of exceptional company strategy.

STRATEGIC THINKING

A prerequisite for a leader's ability to focus on the big-picture goals is a personal commitment and capability to think strategically. The primary difference between strategic planning and strategic thinking is that the strategic thinking is continuous and ongoing, while the planning process is defined and typically for a set period. While we might do strategic planning in the first quarter, we cannot stop thinking strategically once the plan has been outlined. Although they are distinct from one another, strategic thinking and strategic planning rely upon each other to reach their full potential as leadership tools. Without adequate capability to think strategically, the plan may not fully address important market trends or company strengths or weaknesses. The best strategic thinking in the world is useless if it never results in a plan that is executed.

By developing a capability to think strategically, a leader is preparing him or herself for the chaos often experienced today. One popular summary of the current environment is that we are operating in a VUCA atmosphere. VUCA is a term developed by the military that defines the environment as "volatile, uncertain, complex and ambiguous." On the surface, most leaders agree that this describes their business environment accurately, but it does not paint a positive picture. A leader who is adept at thinking strategically looks at this VUCA environment as both a challenge and an opportunity. It is an opportunity because there is an antidote to VUCA, and for those who can acquire it, there is no limit to the available business success. In order to address the volatile, uncertain, complex and ambiguous environment, a leader must have vision, understanding, clarity and agility. In order to apply the VUCA antidote, a leader must be capable of thinking strategically about his or her business.

Strategic thinking is often a mystery. Top executives proclaim that their organizations need leaders who can think strategically, but when pressed to define what that means simply state, "I will know it when I see it." This unclear definition makes it hard to assess and develop an individual's capability to think strategically. A person's ability to think strategically can be developed and honed. In order to create a clear and compelling vision, to grow in understanding, to gain clarity and build agility, a leader must implement a thought process that enables the best decisions for both challenges and opportunities. This thought process is intuitive to those who currently have a strategic thinking capability, but it can be developed in those who do not.

Leaders who think strategically about any issue follow a thought process that moves through eight key components, which include:

- Mental flexibility
- Intellectual curiosity
- Creativity
- Intuition

A prerequisite for a leader's ability to focus on the big-picture goals is a personal commitment and capability to think strategically.

- Analysis
- Systems thinking
- Information gathering
- Decision-making

Combined, these components of strategic thinking enable individuals and, in the proper organizational systems, organizations to develop consistently better strategic solutions to challenges and opportunities in the VUCA environment. Leadership and strategic thinking are consistently at the top of the list of skills senior construction leaders lack. Developing the key components of strategic thinking in yourself, your team and your organization will improve overall leadership to help ensure your organization has a chance to survive this VUCA environment.

You need to understand all the external factors and forces that are beyond your control but have influence on your company.

STRATEGY DEVELOPMENT

With a firm foundation built upon the capacity to think strategically, senior executive teams are prepared for the strategy development process. Whether your company's objective is the development of a new strategic direction, a refinement of existing strategy, differentiation, growth or the development of "game-changing" ideas, you must evaluate the components of context in order to make sound strategic decisions. A thorough evaluation of context allows you to have confidence in those strategic decisions and assures you have done everything to improve the chances for success. The process should test the assumptions that drive your current strategy and those strategies that emerge in the development process. You should strive to achieve clarity of thought by ensuring the process includes both divergent and convergent thinking to consider all options and then settle on the few that are best. Finally, you need to consider the gap between your current capabilities and what is needed, by being realistic about what is possible, given your current leadership, organizational capability, financial resources, systems and skills.

The strategy development process is focused on developing a deep understanding of all the components that define the company's current and future context. Those include the climate, customers, competitors and capabilities (known as the 4Cs of strategy). To understand each of these requires a rigorous data collection and research process.

- **Climate.** You need to understand all the external factors and forces that are beyond your control but have influence on your company. This includes economic forecasts, surety industry trends, commodity prices, politics, demographics, regulatory issues, globalization, technology, etc.

- **Customers (or markets).** This requires more than a cursory review of what our senior management team knows about our clients. You need objective facts about changes in buying behaviors, such as budgets or selection criteria, growth in current and adjacent markets, unmet needs of target clients, perspectives on you and your competitors, preferred positions of contractors and other information vital to determine your future market opportunities.
- **Competitors.** You must understand as much as possible about your competitors, such as entry/exit, strategies, management changes, aggressiveness in key markets, strategies they are pursuing, relationships with key customers or suppliers, etc.
- **Capabilities.** This includes all internal considerations, such as strengths and weaknesses, unique capabilities, drivers of value within the firm, ownership aspirations, access to resources, employee engagement, etc.

Armed with this information, you should be able to analyze immediate business needs, identify strategy themes and answer the questions of "Where" and "How" to compete in the future. Once potential strategies are identified, screen them to ensure they make sense. To do this, you should look at whether you have the required leadership, skills and systems, structure and financial resources to execute the strategy. An honest assessment of the following questions is a good start:

- Do we have the right leader(s) to set direction, align resources and inspire the troops?
- Are current organizational skills, abilities and systems in place to support this initiative?
- Is our organizational structure conducive, or will it hinder the effort?
- Can we support the level of financial investment required to realize success?

STRATEGIC PLANNING

"Strategic planning" for many people is a generic term that describes the process that a company follows to develop long-range plans that the organization will follow. Some will even go a step further to describe it as the process a company follows to define how it will gain competitive advantage in the market or where it will invest limited resources. All of these are good definitions, but to FMI, strategic planning is only one of the steps that a company engages in to make decisions about where and how it will invest effort and how it will reap the returns for those investments. Strategic planning is the step in the process that takes the overarching strategic direction that the leadership has set and turns it into action. To do this, the strategy team must consider developing each of the following:

- An **organization plan** that includes the organization structure, personnel management systems, skills and numbers of staff at each position, and skills development plans at all levels of the organization.
- A **business development plan** that includes marketing, sales and customer service plans. If the company is pursuing growth, the strategic plan may include acquisitions plans.

- An **operations plan** that defines the key operational capabilities the company will need to develop and how they will be built. This may include plans to develop standard processes or acquire specific scope capabilities or other components of the businesses field operations that need to be addressed.
- A **risk management plan** that defines what new risks the strategy exposes the company to as well as plans to account for those risks. These risks could include uncertainties associated with dealing with new markets, new materials, new subcontractors, new employees, etc.
- A **financial and controls plan** that includes the proforma financial plan for investment and returns from the proposed strategy. It also includes objective and subjective measurements that will help the executive team monitor progress of implementation.
- A **communication plan** to roll out the strategy to the organization and to all stakeholders. It includes how and when certain groups will be told about key parts of the strategy, their roles in its execution and its impact on them.
- **Contingency plans** that includes trigger points and define the external and internal information that the strategy team will monitor to cue them that the contingency plans need to be executed. This could include data about market growth, competitor responses, employee satisfaction, etc.

STRATEGY EXECUTION

The final component of good strategy is the execution plan. Most people intuitively understand that execution is the most important aspect of strategy. After all, a good plan poorly executed is worthless. Although they understand the importance of execution, most fail to plan adequately for it. A common misperception is that if we just create a detailed set of action items with due dates and meet periodically to review them, then the plan will be executed. While that often works for a while, it frequently becomes a less important part of larger management team meetings, and eventually the group loses focus and execution wanes.

No two companies have the same strategy because the process requires individual consideration of all of the context components affecting the company's performance.

We see the best companies approach strategy execution in the same way they would a cultural transformation. They create regular sessions to review smaller parts of the strategy, constantly revisit and reinforce the overarching strategic themes that the company is pursuing and keep focus on the big-picture goals, rather than the detailed action plans. They do this by constantly asking themselves when reviewing the strategic plan, "What is working, what is not working and what is next?" The intent is to create a management rhythm that will constantly drive the organization forward to achieve the strategies rather than being mired in the detail of action plans. That is not to say that all the items on the action plan are ignored; however, the team must remember that the intent is to focus on executing strategy and that tactics will evolve over time.

No two companies have the same strategy, because the process requires individual consideration of all of the context components affecting the company's performance. Strategy development also requires senior managers to invest significant time thinking about where and how they will compete. Since many people can look at the same data and draw different conclusions, it just makes sense that they would arrive at different solutions to the challenges they face. Occasionally, senior executives should look at their company and assess how effective their team is at strategic thinking, strategy development, strategic planning and strategy execution. A good place to start is by asking a few questions:

- Is your strategy based on a true source of competitive advantage?
- Is your strategy putting you ahead of industry trends?
- Are your senior leadership team's biases contaminating your strategy?
- Is your strategy based on facts or conventional wisdom?

If the answers make you uncomfortable about your strategy, consider the four components of strategy as the basis for putting good strategy in place. ■

Brian Moore *is a principal with FMI Corporation. He can be reached at 919.785.9269. Matt Kennedy is a former senior consultant at FMI.*

Getting Paid

By Tyler Pare

#42

Clients' expectations are high, margins are thin and competition is fierce. In our current economic environment, contractors work tirelessly to get ahead of the curve. Countless hours are exhausted to ensure integrity of schedule, budget, safety and quality. However, at the end of the day, a dollar earned is not necessarily a dollar received.

Any principal of a construction firm will tell you that cash is king. There is little room for error when it comes to feeding the cash cycle. Why not apply the same focus and fervor to collecting the monies that are owed to your company as you do to installing the building components for which you bill?

MANAGE THE PROCESS

Often, too much of the responsibility for collecting receivables is shifted to the accounting department. When accounting investigates the nature of an account and the reason for delinquency, it is often determined that the client has withheld payment because it has yet to receive consideration for payment as outlined in the contract. Examples range from a significant deviation from the schedule of values to failing to deliver as-built drawings. Once accounting has determined the root of the problem, the information must be relayed to project management. The project manager then has to spend a day or two digging through the jobsite trailer, chasing down architects and drafting another proper payment application. By the time the project manager is prepared to submit the revised payment application, another billing cycle has passed and the project is out another 30 days on cash collection.

AVOID REDUNDANCY

Project managers should control and manage the receivables process, as they can keep better tabs on the nature of outstanding receivables and take the necessary actions to get release of payment from the client. Project managers can use dashboards to create visual representations that readily identify the dollar value of outstanding receivables and the number of days outstanding. If the issue is identifiable, it is actionable, and the project manager can be proactive about collecting.

BEING PROACTIVE

Best-in-class project managers will set up a meeting with their counterpart in the client's organization to discuss the billing process and outline expectations before the start of the job. Some will even flowchart the journey of a payment application through the client's organization. This helps both parties identify the reason(s) behind payment issues, when they do occur.

Creating zippered relationships has tremendous value in collecting accounts receivable. Whenever you "go over someone's head" to collect payment, existing relationships become strained. However, if your organization's executive leadership has established a rapport with the client's leadership, payment disputes can generally be resolved amicably. Make sure that the accounting staffs of each party are on the same wavelength as well. Getting feedback from a client on nonpayment is much easier with a familiar voice on the other end of the line. However, relationships will not materialize on their own. It should be up to the project manager to facilitate introductions and bring the two organizations together.

ZIPPERED RELATIONSHIPS

A zippered relationship is one in which many people at a firm have connections with many of their clients' employees. Both parties strive to broaden their relationship by having multiple people in multiple points of interaction.

From a construction standpoint, projects that start well generally finish well. The same can be said for the billing process on a given job. The first billing cycle is a project manager's greatest opportunity to establish expectations with a client. Having your ducks in a row and billing properly from the onset will improve your ability to maneuver turbulent waters downstream.

In the beginning of the project, there are typically no extraneous items that would impede payment. If the paperwork checks out and the payment application is delivered on time, you should expect payment in a timely fashion. Take note of how quickly the first payment application is processed and released. Use that period as a benchmark for subsequent billings. If receipt of payment deviates significantly from this unofficial schedule, that should raise a red flag for your project manager. While there is a plethora of issues that can delay payment, the important thing is to realize that there is an issue as early as possible. This allows project managers to be as proactive as possible in resolving the issue. Conversely, if the first payment is delayed unreasonably, then take immediate action to secure payment. It is a matter of training the customer as to what you will and will not accept. As a first offense, pressing for payment should be done with grace.

CUSTOMER SERVICE

Proper billing may not be the first thing that comes to mind when you think customer service, but it can have a huge effect on the client relationship if it is mismanaged. Front-end loading a schedule of values and overbilling are common practices in the construction industry. However, extreme behavior in this arena can cause a client to halt release of payment. "Getting your hand caught in the cookie jar" can severely damage the client relationship from the onset of a project. Once trust has been eroded, it can be a long, uphill climb to regain it.

COLLECTING RETENTION

At 5% to 10% percent of contract value, retention often equals or exceeds the net margins being realized in today's construction markets. That being said, it is extremely important to collect on retention as early as possible. One of the most common issues in collecting retention is failing to deliver a completed project.

The onerous task of compiling a punch list should not rest squarely on the shoulders of the client. As a retail consumer in your everyday life, you would not accept a transaction that included the caveat of a punch list attached to the "finished" project. Why should you expect your customers to accept this? Start by generating an internal pre-punch list. Collaborate with all members of the project team to devise an exit strategy and coordinate with other trades to execute the strategy. Setting a goal to achieve zero punch list items will help drive your exit strategy across the finish line. Monetizing the punch list can help both parties accelerate their performance and payment on major items.

Avoid being pennywise and pound-foolish in the closeout process. Getting off the project in a timely fashion is paramount. Ignoring potential liquidated damages, the cost of extending project overhead and multiple mobilizations can cripple the margins of an otherwise well-executed project. Ultimately, delivering a truly complete product will do wonders for your ability to collect retention.

DELINQUENCY

Prior to commencing a project, or even signing a contract, your company should have a process for determining the creditworthiness of a client. There are many methods and sources for researching a client's credit history, some more discrete than others:

- Dun & Bradstreet
- Credit bureau
- Banks
- National Association of Credit Managers
- Other contractors
- Other customers
- Suppliers
- Financial statements
- Company brochures
- Project funding agreement
- Clerk of the court

Having this information upfront should give you a clear indication of the payment risks involved in a project. Monitor your clients' credit risk throughout the life of their contracts and know their financial standing at all times. You should always have contingency plans, but some at-risk clients may deserve more attention than others may.

At the point where you have earned full right of payment and an account is still delinquent, the ownership of the collection process can be transferred to accounting. Know your available remedies and safeguards within the confines of the contract and have specific plans for legal action if necessary.

Contractors, subcontractors and clients often work together on multiple projects simultaneously. A payment concern on one project can quickly become a systemic risk for a large portion of your backlog.

Contractors, subcontractors and clients often work together on multiple projects simultaneously. A payment concern on one project can quickly become a systemic risk for a large portion of your backlog. If issues arise on one project, make sure that they are communicated to areas of your organization that may have similar exposure.

Managing receivables is not unlike managing physical construction. Simple actions can be taken at the onset of a job to improve the flow and conversion of receivables:

- Know your clients inside and out.
- Establish a rapport that sets precedent for the remainder of the project.
- Have a plan for managing outstanding and delinquent accounts.
- Be aware of risks and communicate them clearly to all parties involved.

It is hard enough to earn a dollar in today's construction markets. The process of collecting that dollar should not be the bane of your existence. ■

Tyler Pare *is a consultant with FMI Corporation. He can be reached at 813.636.1266 or via email at tpare@fminet.com.*

Globalization of the Engineering and Construction Industry

By Sabine Hoover

#43

Uncharted by many American design and construction firms, the global business environment has grown significantly during the last 10 years. Along the way, it has pushed engineering and construction (E&C) companies of all sizes to begin "thinking globally" and performing business outside of their traditional domestic borders.

The opportunity is real. A 2009 report published by Global Construction Perspectives and Oxford Economics estimates that construction in emerging markets — including Asia, Latin America, the Middle East and Africa — will double within the next decade and become a $6.7 trillion business by 2020, accounting for some 55% of global construction output. These projects represent significant opportunities for global-minded E&C firms.

In response to this seemingly endless demand for more infrastructure, large, multinational E&C companies are broadening their global footprints and strengthening their competitiveness by securing strategic positions in high-growth emerging markets. Competition is intensifying with new players from China, Brazil and India, proving them as a new class of powerful, emerging market multinationals. Just how adaptive these construction companies are, however, remains to be seen, as they expand into an increasing number of highly regulated markets.

ADOPTING A GLOBAL MINDSET

Today's global E&C industry is changing rapidly. Barriers to global trade have been reduced significantly, enabling capital, labor, goods and technology to flow freely across borders. This has increased business opportunities exponentially across the globe. However, globalization has also vastly increased the complexity of the E&C business environment. Changing customer demands and new funding mechanisms are driving industry players to diversify and seek mergers and acquisitions in new markets around the world to gain access to new expertise and project opportunities.

To compete in today's uncertain, dynamic and interconnected business environment, design and construction firms, both home and abroad, will need to stay focused on key trends shaping their external environment. Understanding trends, and how they interplay and shape the contours of an industry's operating environment, has become a vital skill in today's business world. Insightful leaders anticipate and systematically observe, spot and act upon emerging trends to capture market opportunities, test risks and spur new ideas. In a world where the playing field of resources, competition and customer demands is constantly changing at an ever-increasing rate, company leaders must look beyond traditional performance measures and near-term thinking to define their corporate strategies.

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Ron Magnus, managing director of FMI's Center for Strategic Leadership, explains, "Today's corporate leaders need to have a sense of what they think could impact their local markets. For example, if China's economy continues to slow down, or if Israel attacks Iran tomorrow — what are the implications for the local market in Denver, Colo.? These types of events would have an overnight effect on specific market segments; therefore leaders need to evaluate their portfolios, understand their risk and be ready to respond quickly if necessary."

Following are six recommendations on how firms can prepare for and deal with a global design and construction environment, regardless of company size or type.

View Competitors as Potential Collaborators

Despite the overall trend for large multinational E&C firms to shift focus onto high-growth emerging markets, FMI expects to see increasing competition from international organizations working within the United States in the coming years. Hugh Rice, senior chairman of FMI, states, "Although the U.S. design and construction market has slowed significantly, we still see many foreign companies with a lot of interest in expanding their presence in the United States. That's particularly true of the European and Asian firms, including Japanese, Chinese and Korean companies." Though larger firms might muscle in on smaller-sized contracts, smaller firms can prove complementary on a larger contract, where they bring niche capabilities or knowledgeable staff to the table. Likewise, smaller companies may offer specialized staff or capabilities to a larger project that a firm is looking to shepherd.

Understand the Cost and Risk Barriers to Entry

Companies considering doing business on a global scale need to have strong balance sheets and solid bonding capacity as well as a deep understanding of the risks involved. The cost of entry is typically much higher than anticipated. Risk management becomes a prime factor in strategic planning. The intricacies of risk allocation often present new ground for contractors to cover when doing business in a new country. Public-private partnerships (P3s), in particular, can be very challenging and often bring with them greater risk in terms of a longer life cycle, larger scale of liability and heightened vulnerability to changes in external dynamics as the project progresses. Magnus Eriksson, senior vice president, Skanska Infrastructure Development Americas, emphasizes the novelty of new arrangements. "First of all, you have to understand the difference in risk allocation — the additional risk in a P3 project you are required to absorb as a contractor (especially if you're an American contractor) — it's probably something you've never seen before."

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Think Strategically and Understand Your Connection Points to the World

Strategic thinking goes beyond the creative process of understanding and adapting to a changing environment. It also encompasses a different perspective and approach to dealing with the current and future environments we are all operating in — as individuals and organizational leaders. Jake Appelman, director of FMI's Executive Coaching Practice, explains, "Many of the leaders we work with are realizing that one source of enduring competitive advantage is their ability to read their environment clearly, make sense of it and respond — to think strategically." Do not lose sight of the big picture by trying to solve all challenges at hand. Be ready to flex and react to rapidly unfolding scenarios, while also retaining a clear vision over which judgments should be made. Focus on the risks and questions — the connection points to the world — that are most likely to affect your company and how they are actually likely to do so.

Collaborate and Innovate

Many of today's international design and construction jobs are highly complex, huge and collaborative in nature and therefore cannot be run in a silo-type manner.

New emerging technologies, as well as owner demands, are pushing design professionals and contractors to work as a cohesive team from the outset, communicating and approaching projects more holistically. As part of this effort, it is key to build strategic alliances with reliable partners and to develop a deep network of companies that are team players, open-minded, and innovative. Magnus adds, "Strategic alliances are the main entrée to the global playing field. Very few go alone … core competencies in building strategic alliances are mandatory."

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Position Your Firm for Success in Multiple Markets

In this slow economic recovery, no one is taking his or her backlogs for granted. As many firms look to reorganize and rebuild by bringing on new staff a few years after deep cuts to their operating budgets, the opportunity arises to diversify into new markets and geographies, reducing risk and resting profitability on a larger base for the future. Christian Büscher, vice president of corporate development and risk management at Flatiron, adds, "Diversification means investing in areas you can control (e.g., the work types, the kind of business you do), but adding geographical areas to it. Say 'Let's have a second leg to stand on.'"

Create New Adaptation Strategies and Core Competencies

In order to adapt to ongoing globalization trends and succeed in the long term, companies should consider the following adaption strategies:

- Develop a deeper understanding of financing alternatives.
- Practice niche marketing by finding pockets of prosperity and aggressively pursue work in those areas.
- Work with diverse teams and adapt quickly to changing social and political environments.
- Strive to become a firm driven by design execution and field productivity.
- Invest in talent. Continue to develop technological skills.
- Empower the younger generation of leaders to shape their own destiny ("star-making").

With the incredible "shrinking" of the globe, fast-growing firms from the emerging markets are set to challenge established Western industry leaders in the

EIGHT STRATEGIES FOR GROOMING GLOBAL LEADERS

Globalization presents unique leadership development challenges for companies in the construction and engineering fields. Grooming leaders who can look beyond traditional, domestic borders and adopt a global mindset takes time and requires an entirely new learning approach. Here are eight strategies to use when cultivating global leaders.

Develop "cultural empathy."
Global leadership development needs to focus heavily on enhancing emotional intelligence, empowerment and self-awareness, promoting empathy and respect for different opinions and viewpoints.

Develop a diverse mindset and worldview.
Start building a workforce today that encourages diversity, understanding of different cultures and aptitude across new languages.

Understand customers in new geographic markets.
This is particularly true in emerging economies that require diversity across the highest levels of the organization. Opportunities at the highest levels, including C-suite and CEO, must therefore be open to people of all national origins.

Focus on decentralized leadership.
Today's global leaders do not act like traditional hierarchical managers. Through emotional intelligence and self-awareness, they are able to lead a diverse workforce and align employees around their organization's vision, goals and values. Rather than focusing on hierarchy, they concentrate on values and empower their local (geographically dispersed) teams to run their operations in ways that align with local cultures, governments and communities.

Broaden the reach of leadership development.
Giving future global leaders the opportunity to live and work abroad is a great way for them to broaden their mindset. This approach helps to: 1) Self-select whether or not they can handle leading abroad (this is the primary reason for expatriate turnover); 2) Learn another language, culture, business model, regulations, etc.; and 3) Provide the organization with insights into whether or not that region or location is worth targeting.

Stretch assignments across continents.
Give leaders a typical assignment (e.g., design a building, order materials, etc.), but base it in the United States. Once they have completed the task, have them go through the same process in three or four different countries, all with varying cultures (e.g., China, Russia, Brazil, Dubai, Mexico, Australia, etc.).

Leverage cross-training opportunities.
Train leaders in differing skills within the organization. Chances are, they will need to have some knowledge of each area in order to run an international office. After all, overseas locations are typically much smaller offices, where people wear multiple hats on a daily basis.

Use organizationwide training on the same initiatives.
The goal here is to get everyone rowing in the same direction by making sure that all future expatriates are all working towards the same organizational vision. If they are not, or they have stronger self-interests, then things can go wrong quickly.

future. As new competitors enter the scene domestically and internationally, both local and global design and construction firms are responding with new business approaches, stressing greater involvement of clients and suppliers and reassessing their risk and capital allocation. Emphasis on greater efficiency and innovation, in particular, will ensure that industry players can rise to the challenge of the new competitive landscape — both at home and abroad.

Lastly, today's successful industry players are professional services firms, offering top-notch human resources that understand the importance of hiring the best professionals with risk management capabilities, market knowledge and an in-depth understanding of client behavior and job-specific challenges. These companies are tuned deeply into their "connection points to the world" and maintain a global outlook on whatever they think and do. ■

Sabine Hoover *is a senior research consultant with FMI Corporation. She may be reached at 303.398.7238 or via email at shoover@fminet.com.*

Partnering for Profitability: FMI's Best Partnered Projects

By Bill Spragins

#44

Since the design and construction industry embraced the partnering concept almost 25 years ago, the partnering focus has evolved. While partnering certainly helped enhance collaboration among all stakeholders in the 1990s, the emphasis in the last decade has been more toward high-performing teams that are taking on much larger projects involving even more complex schedules, tighter budgets and evolving technical challenges. The growth in use of collaborative tools, such as BIM and LEAN principles, along with increased use of colocation of the parties, has further fueled the metamorphosis of partnering.

During this period, FMI has had the opportunity to work with more than 1,000 projects across a number of industry sectors. While there were many fine projects along the way, and we risk not mentioning some that may warrant attention, the following are projects that stand out and represent a mix of those from the early days of partnering to more recent applications. In addition to staying true to the partnering principles of accountability, consistency and total team involvement, those mentioned also had one or more of the following:

- Outstanding results in one or more of the key goal areas of safety, quality, budget and schedule
- Innovative implementation of the partnering process
- Innovative technical approaches to the project that helped deliver the results

- High levels of trust and morale among the parties — keeping the handshake in the business
- Achieving a greater good or impact to the industry/community beyond the immediate project

These projects had their own unique set of challenges and circumstances and are listed alphabetically:

Aquarium of the Pacific, Long Beach, Calif.
($117 million, completed in 1998)
Team: Kajima International, HOK/EHD&D, Turner/Kajima
Project Delivery Method: CM/GC - CMAR

To achieve the overall goal of a world-class opening, this team diverted from what was the "normal" practice of partnering at the time (where sessions were periodically held off-site in hotel rooms) and instead held all activities on the jobsite. Monthly and bimonthly meetings of project leaders and off-site executives drove accountability for team goals and aligned schedule expectations between the construction team and the aquarium staff, as it was essential to align the "species collection" time frames of the aquarium with the delivery of the tanks from the construction team.

Long before integrated project delivery (IPD) became an industry catchphrase, project leaders involved the aquarium staff, subcontractors and field team on what was important to the client: Early delivery and turnover of the tanks. Project leaders then graphically displayed achievement of the tank milestones at the jobsite entrance. Savings generated from value engineering ideas were reinvested into the state-of-the-art surge systems. This team achieved a high morale and results-oriented atmosphere through a number of activities, including mini-sessions between the aquarium staff and subcontractors, an innovative "Craftsman of the Month" peer recognition technique where subcontractor crews voted for an individual from another trade, and numerous social events. A world-class opening was achieved!

Broad Run Water Reclamation Facility, Loudon County, Va.
($180 million, completed in 2008)
Team: Loudon County Sanitation Authority, CH2M Hill, Black & Veatch, Hill International, Pizzagalli, Frucon
Project Delivery Method: Design-Bid-Build

This team's objective from the outset was to find a better way to get projects done for all parties and thereby create a model for the mid-Atlantic region and the industry. Partnering was the vehicle for this. The activities used on this multiple-contract program included quarterly executive sessions with each contractor, interim staff-level surveys and ongoing fact-based decision-making (FBDM) as part of the issue resolution process. Two years before project completion, an additional "all-projects, all-hands" session, attended by all supervisory personnel from all projects, focused on commissioning and start-up. The overall comprehensive partnering effort involved a total of 31 sessions and 24 team evaluations during three and a half years.

The results included a safety rate of less than 2.0 OSHA Recordable Incidents, compared to the industry benchmark of 6.9. The Pizzagalli projects completed with zero lost workday incidents in more than 1,000 days and won the company's "Safety Project of the Year" in 2006. Loudoun Water met its new discharge goal by discharging treated effluent and then meeting all permit parameters since June 2008. The change order experience of less than 3% on the program was less than 50% of the industry average. This project demonstrated a better way to get projects done.

Interstate 81, Harrisburg, Penn.
($59 million, completed in 1995)
Team: Pennsylvania DOT, Urban Engineers, Lane Construction
Project Delivery Method: Design-Bid-Build

The need for the 19-mile reconstruction of this highway north of Harrisburg, Penn., was confirmed by readers of Overdrive magazine in 1993, which ranked this section of I-81 as the seventh-worst road in the United States. A phased approach to partnering was used with a kickoff session and workshops held in February of each year, just before construction was started up in the spring. To ensure accountability to the process, action items from the partnering sessions were placed on the agenda of monthly progress meetings, weekly project leader meetings and quarterly executive meetings. Ongoing morale-enhancing social activities were held throughout the project.

The project finished six months ahead of the original three-year schedule. A change in the temporary pavement design resulted in a $1 million savings to the public. This savings helped fund 24-hour police presence during construction to bring under control inattentive drivers who ignored posted construction zone speed limits. Additional safety elements included more warning signs, raised pavement markers, rumble strips, flashing message boards and "drone radar" to set off radar detectors. The upgrades to construction work-zone management by this team ultimately helped improve safety for Pennsylvania motorists on all Commonwealth construction projects on interstate and primary roads.

LAX Tom Bradley International Terminal Improvement Project, Los Angeles, Calif.
($575 million, completed in 2010)
Team: Los Angeles World Airports (LAWA), Parsons Transportation, Leo Daly, Clark-McCarthy Joint Venture
Project Delivery Method: Design-Bid-Build

This team's challenge was to complete the upgrade of close to 1 million square feet of occupied space in a phased delivery, while ensuring 10 million passengers a year could safely and efficiently move through the terminal. In the post 9/11 era, this included replacing three miles of baggage handling systems and the mechanical, electrical, IT and building management systems without shutting down the terminal. The partnering process included a combination of executive-level sessions among all parties, including subcontractors, large "all-hands" management group sessions, staff evaluations and special discipline sessions to improve change and schedule processes.

The project was broken down into different elements, and leaders of each element generated "hot-issues" lists for a weekly meeting. The team adopted the term "microphasing" to describe the problem-solving and resulting collaborative work plans to address the hot issues. At the conclusion of the project, a special partnering session was held that generated lessons learned that LAWA and other parties could take to future projects at LAX and other airports. In the process, the team supported 3,000 disruption notices and 50 major system temporary shutdowns, while incorporating the latest security features into the terminal in support of TSA mandates. This is what we call an "on-time arrival."

Main Runway Replacement, Edwards Air Force Base, Calif.
($107 million, completed in 2008)
Team: Army COE, Air Force, CH2M Hill - Interstate Highway Construction Joint Venture
Project Delivery Method: Design-Build

This team's challenge was to replace one of the world's longest runways while maintaining operational access in time to support not only the ongoing operations at Edwards Air Force Base, but also a high priority space shuttle mission and then subsequent landings during the last several years of NASA's space shuttle program. This storied runway played a significant role in the development of virtually every aircraft to enter the Air Force inventory since World War II and from which test pilots expanded the frontiers of atmospheric flight. The team first built a temporary alternate asphalt runway and then rebuilt the 16,000-foot long, 300-foot wide main concrete runway. Partnering steps included a well-thought-out project charter that addressed key objectives, quarterly executive sessions attended by multiple users of the runway, and adherence to an issue-resolution structure that facilitated rapid communication and decision-making.

The team overcame a 26% escalation in the price of cement and steel between the time the project was sent to Congress for approval and award of the design-build contract.

The team overcame a 26% escalation in the price of cement and steel between the time the project was sent to Congress for approval and award of the design-build contract. Design-build interaction between the joint venture and the USAF resulted in optimizing the airfield pavement structure and logistics hurdles, resulting in the project team, in effect, generating 14% more money than was originally granted and allowing scope betterments for Edwards AFB, a national asset. When the main runway opened on September 30, 2008, the team had beaten the aggressive 800-day schedule by 90 days, while concurrently supporting more than 15,000 aircraft movements and operations and working more than 420,000 hours with zero lost-time incidents. Along the way, this team became a model for the role of people over process and partnering among the Owner/Stakeholders/contractor.

Newtown Creek Wastewater Treatment Upgrade 35 Project, Brooklyn, N.Y. ($700 million, completed in 2009)
Team: New York City Department of Environmental Protection (DEP), Greeley & Hansen, Hazen & Sawyer/Malcolm Pirnie, Skanska, Skanska-John Picone-James McCullagh Plumbing-Perini
Project Delivery Method: Design-Bid-Build

The New York City DEP's formal partnering paid huge dividends. On this piece of the overall $3 billion program upgrade to New York City's largest wastewater treatment plant, this team originally was going to build just the new north battery and reconstruct half of the central battery. When sheeting issues arose on another contract that created potential delays to the project and the program, the team resequenced activities to meet the DEP's consent decree — all on a handshake to keep the project moving. The partnering process included 1) quarterly executive sessions to manage the handshake while the paperwork was processed and 2) interim project staff level team surveys to solicit additional input from those on the ground. A $210 million change order, which added work from a future contract to complete the central battery, benefited the overall program schedule. This team completed the original contract and the change order work one year ahead of schedule while maintaining the best safety program on-site, which was an even bigger boost to the success of the overall building program.

New Jersey Transit (NJT) Newark Light Rail Extension, N.J. ($207 million, completed in 2008)
Team: New Jersey Transit, DMJM-Harris/STV, BRW/Parsons Brinkerhoff, Conti Enterprises
Project Delivery Method: Design-Bid-Build

This light-rail extension of Newark's subway enables passengers coming from NJT's suburban lines to reach Newark Penn Station within a few minutes. The line was constructed in a complex urban environment, including additional construction activities of power, rail installation and relocation of utility systems, six new stations, 850 feet of subterranean work and an 800-foot stretch of "floating" slab versus traditional grade slab to dampen vibrations of light-rail cars that may rattle users of the nearby Performing Arts Center. Accountability was achieved by having an ongoing series of partnering activities requiring all parties to account for the various actions needed by each, including kickoff sessions, quarterly follow-up sessions, team evaluations and a special session focused on acceptance and closeout.

The project came in on time, despite the intensive nature of utility relocation, and kept the final project budget within range of NJT's expected value with carefully thought out value-engineering proposals. Additionally, an intensive outreach program kept the community and office-building managers informed of upcoming construction activities and included coordination with the local baseball team (Newark Bears) and Newark police for security purposes. RFI and submittal processes significantly improved, and administratively the project completed months ahead of the norm.

Safe and Sound Bridge Program, Missouri
($487 million, completed in 2012)
Team: Missouri DOT, Kiewit-Traylor-United-HNTB-LPA
Project Delivery Method: Design-Build

The Missouri DOT's answer to the well-documented aging infrastructure problem in this country was to develop an innovative, first-of-kind program using design-build to replace 554 rural bridges across the state with an original schedule of five and a half years. A component of the partnering process included regular executive sessions where project leaders presented metrics status on a dozen team goals. This consistently reinforced the principle that "you do what you measure." This team also maximized the value received from the use of two different partnering team evaluations that solicited input from MoDOT-KTU project staff and local Missouri subcontractors that did 85% of the work.

The results of the MoDOT-KTU surveys identified areas of improvement in the overall management of the program and addressed specific concerns. The subcontractor survey ran at the conclusion of each construction season, and the results were used during the winter downtime period to adjust/tweak the approach. This proved particularly important during the transition from the first construction season to the second construction season, when implementation of the majority of the lessons learned occurred. This set the stage for an immensely successful outcome to the project and an example of a unique use to a partnering tool in a unique project setting.

In addition to beating the MoDOT schedule by 24 months, two additional bridges were constructed for the same budget, and, most importantly, jobsite safety was enhanced across the state as subcontractors and MoDOT adopted KTU's progressive safety practices, ensuring all workers arrived home "safe and sound."

T-REX, Denver, Colo.
($1.7 billion, completed in 2006)
Team: Colorado DOT, Regional Transportation District, Carter-Burgess (Jacobs), Kiewit – Parsons Transportation
Project Delivery Method: Design-build

This massive $1.7 billion multimodal transportation project involved the reconstruction of Interstate 25 and I-225 for 17 miles and the addition of 19 miles of a new double-track, light-rail transit line, including 13 new stations, between the two major business districts of downtown Denver and the Denver Tech Center.

Other aspects of the scope of this project included the reconstructing of seven interchanges, (including I-25/I-225), reconstructing or widening of 60 bridges and improving drainage (including 29 miles of pipe). All of this occurred while maintaining three lanes of traffic during daylight hours in each direction. While there were a number of factors behind the success of this project, including unprecedented agreements among local, state and federal agencies, an innovative procurement approach and well-thought-out staffing plans of all organizations involved, a key supporting element was the implementation of the most extensive and committed partnering effort ever undertaken for a project of this size and complexity. The process was implemented from the executive level through all task force discipline teams, including initial sessions and multiple sessions at the executive level and with a number of discipline teams, bimonthly and quarterly surveys for the duration of the project, and issue-resolution meetings on critical issues.

In addition to completing the project 22 months ahead of the original seven-year timetable, the light-rail segment was completed a month ahead of the proposed schedule, and more than $74 million in third-party enhancements were added to the scope without impact to the schedule. Additionally, the team achieved more than an 80% approval rating among residents and a 93% approval rating among commuters, the safety record was six times lower than OSHA's incident rate for heavy-highway construction, and the project completed under the established base budget of $1.67 billion. The project then went on to win both the AGC Marvin M. Black Excellence Award in Partnering and the AGC Build America Grand Award.

U.S. Highway 75 S-2 Project, Dallas, Texas
($125 million, completed in 1998)
Team: Texas Department of Transportation, Granite Construction
Project Delivery: Design-Bid-Build

This project was a reconstruction of a heavily travelled 4.4-mile segment of U.S. Highway 75 in Dallas, known as the North Central Expressway. The existing four-lane freeway was replaced with a depressed, eight-lane freeway with cantilevered frontage roads. It involved the removal and construction of 1 million square feet of retaining walls as well as the installation of extensive underground utilities, irrigation and landscaping systems. To accomplish this in the 65-month schedule, the team used a combination of partnering and Total Quality Management (TQM), which had been explored within the industry during the mid-1990s and is based on similar principles to what is now known as LEAN. The focus recognized that a key to worker motivation is creating an environment where worker input is appreciated and recognized in a continuous effort to improve the way the project is built. The process involved a "central idea" team that met biweekly to review and provide feedback on ideas generated from all levels of the organization, including inspector and craft level, and then recognized the best ideas in front of the entire team on a quarterly basis. Ideas generated on the first 50% of the project that was reconstructed on one side of the highway were applied to the second half of the project being reconstructed on the other side and to the adjoining S-1 project, which the Granite team won as well.

This project completed nine months ahead of schedule while maintaining flow of 150,000 vehicles per day, avoiding up to $60 million in user delay costs. The project won the 1997 AASHTO Value Engineering Award, the 1998 Texas Quality Initiative Award for Teamwork, the 1999 National Quality Initiative Award and the 1999 AGC Marvin Black Award for Excellence in Partnering.

VA Healthcare System Building 1 Seismic Retrofit, San Diego, Calif. ($67 million, completed in 2008)
Team: Veterans' Administration, Leo A. Daly, Clark Construction Group
Project Delivery Method: Design-Bid-Build

This six-story, 855,000 square-foot medical facility, originally constructed in the early 1970s, no longer satisfied appropriate seismic codes and was at risk for major damage in an earthquake. The project supported the uninterrupted operation of the facility so the VA could continue to serve the estimated 267,000 area veterans each year. The team used a multifaceted approach to partnering beyond the traditional kickoff session, including quarterly staff-level evaluations, a midpoint session where all goals were rated and analyzed as a way to propel momentum for the last year of the 30-month schedule, and a lessons learned session with subcontractors at project completion to transfer knowledge to future projects. VA San Diego, through this project, became the first actively functioning hospital to construct an exterior structural steel-braced frame for seismic support.

The job completed four months ahead of schedule with zero lost-time accidents. Additionally, during construction, the military medical community came under scrutiny after the discovery of substandard care and conditions at certain facilities, and this project was selected for a Continuous Readiness Inspection by the Joint Commission (JC). The JC inspected the hospital, and VA San Diego received full accreditation, becoming the only facility nationwide to have passed the JC process during a major construction project.

FMI tips its hat to these projects and all other projects that hold true to partnering principals, implementing the process in a proper fashion and producing exceptional results along the way. ■

Bill Spragins *is a principal at FMI Corporation. He can be reached at 303.398.7211 or via email at bspragins@fminet.com.*

Hiring and Retaining the Right People

#45

By Shirley Ramos

In his book Good to Great, Jim Collins noted "The old adage 'People are your most important asset' is wrong. People are not your most important asset. The ***Right*** people are." Of course, Collins is right. The end goal is to have a robust organization that sports the right people in the right positions, with a set of systems and a culture that keeps them in those positions and excited to be there.

However, the current reality for the construction industry is the challenge of not only an insufficient quantity of craft workers, supervisors, managers and staff for available positions, but also an industry that may not appear "sexy" enough to attract and retain the younger Millennials or the upcoming Generation Z. A recent article on insulation.org referenced polling high school students on their career choice options. The role "construction worker" ranked 247 out of the 250 options presented. Interesting as well, craft workers were asked if they would encourage their children to follow in their footsteps and become craft workers themselves — surprisingly (or not?), 70% said no.

There is little debate that the construction industry appears to have its challenges as it competes against other industries for new talent. Couple that with the Construction Industry Institute (CII) research findings that "contractors with an employee retention rate of 80% or higher realize increased job profits, complete more projects on time or ahead of schedule, and have better project safety performance" and you have a strong argument for how important retaining employees is for the building and construction industry. Many companies address this issue by treating the symptoms of the turnovers, which often show up as employee complaints, unresolved disputes and the overall malaise that appears before an employee decides to give notice, but it is questionable if they realize the increased employee retention they are looking for.

A common mistake that companies may make when addressing poor employee retention (or high turnover) is viewing it as an isolated issue. Employee retention is a primary element of a bigger goal — a strong and consistent staff. Other primary elements include recruiting and hiring quality employees as well as identifying and developing those employees. This approach to an organization's human resources increases the probability that you will not only improve your employee retention rate, but that you also have a higher percentage of employees you actually want to retain!

BEGIN AT THE BEGINNING

Jim Collins also refers to getting the "right people on the bus." Strong employee retention begins at the beginning — with hiring and recruiting.

If your company relies on collecting and sifting through a couple hundred resumes, a screening interview or two and a generic background check as your hiring process, you are in good company. Small, midsize and even some large companies are still using this traditional approach to finding candidates. However, ramping up your recruitment to purposefully include both "push and pull' recruiting strategies and assessments may improve your chances of initially getting the right people to your front door.

> **Employee retention is a primary element of a bigger goal — a strong and consistent staff.**

The recruiting process can be active and/or passive; companies can reach out to candidates or sit back and let them come. Push activities (active recruiting) reach out to the target prospects. This includes using recruiters, mailers, targeted high school and college career fairs and referral follow-ups. Building and construction recruiters are beginning to see the value of using social media options (another push activity) when searching for the next generation of employees. A blog post by Todd Yerman on HART's website discusses the new world of social recruiting for the building and construction industry. He contends Facebook and Twitter are sites to build community by highlighting corporate culture and marketing an ideal working environment, while LinkedIn can be a powerful social recruiting tool, especially when leveraging the business account upgrades. Using traditional pull activities, such as advertising on search engines, the company website and in newspapers and journals — in conjunction with more active push activities — creates a complementary approach to focused recruiting.

"Most managers hire for skills, knowledge and background. Then they fire for behavior," states Bruce Hubby, founder of PDP, Inc., a company that provides assessments for businesses. Hubby contends that we would be much more successful if we hired for strengths that match the requirements of the position and then train the person in the skills to do the job. Truthfully, doesn't that align with the reality in the industry? How many times do we terminate an employee because he/she does not know how to do the job? More often we terminate for some behavior — tardiness, laziness, lack of attention to the job, poor work ethic. If that is the case in your organization, spending additional time on the front end of the process and a shift in the profile that you are hiring could positively impact your ability to retain the best employees.

WHAT KEEPS 'EM (THE RIGHT PEOPLE) GOING?

Hiring and getting the right employees on board is an essential first step to creating a strong workforce. Retaining that workforce requires keeping this talent by using a variety of strategies, including onboarding and training, opportunities for increased work challenges, purposeful engagement and appropriate compensation.

Most organizations understand the need for onboarding and training for new employees, even though arguably most would admit that they could do a better job. What often is overlooked is training for those who are hired for, or promoted to, management positions. Poor or no management training can affect how employees view their bosses, positions and roles in your company, which can negatively affect retention rates. Moreover, recruitment also can be negatively affected if employees who are unhappy with the work environment speak with potential hires. The proper training for managers on both leadership skills and employee expectations creates an essential framework for your workforce.

Being valued at work rates the same as, or higher than, compensation in many surveys. Employers agree that there is value in promoting from within and that they are looking for their employees to take on more challenging work or higher-level positions as they grow and learn. What most employers do not do well is to purposefully communicate these thoughts or provide any insight to employees on how to work through the processes for more challenging or advanced positions. By communicating with employees regularly on their performance and providing a clear path for advancement and more responsibility, you increase the probability of keeping employees engaged and invested in both their own professional growth and the company.

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There is truth to the adage that "employees do what they are compensated for." Compensation needs to be in line with the position and the expectations for that position. The balance between a rewarding salary and industry-competitive compensation is on the mind of most new hires and current employees If employers want to retain their employees, it should be on their minds as well.

WHERE IS THE VALUE?

A Cornell University study estimates the cost of losing a single employee to turnover is 30% of an hourly employee's yearly salary and 150% of a manager's salary. The total cost of terminating an employee includes a number of administrative separation costs, the cost of replacing the employee, onboarding and training costs for the new employee and, specifically challenging for the construction industry, the time costs of having open positions (downtime) during a project or a number of projects. It only makes sense then to focus our efforts and resources on retaining, rather than constantly replacing, our employee workforce. ■

Shirley Ramos *is a training consultant with FMI Corporation. She can be reached at 303.398.7213 or via email at sramos@fminet.com.*

Talent Wars, Then and Now

By Randy Nemchin

#46

Generation Y (Gen Y), Millennials, futures, kids, call them what you want. But do not call; simply text. This new generation communicates differently from prior generations. As the Millennials communicate differently, we must find ways to communicate more effectively, which means different interactions and ideologies must drive the way one thinks.

Past generations were more suited to connect through in-person interactions or via phone calls. Email and video conferences are considered standard ways of interacting, but not for Millennials. IMessage, texting, Instagram, Twitter, Facebook and other social media outlets are all communication tools this generation uses. These trends are the foundation of the next generation's way of communicating and interacting. Pagers, two-way radios and landlines are museum artifacts that should be on exhibit to be regaled by the Millennials. Therefore, if an organization is looking to hire members of this particular generation, there are a few things to consider:

- Where to find them
- How to entice them
- How to keep them, long term

To attract young talent, organizations must change the way recruiting and hiring occurs. The potential this next generation can provide is greater than a job or position. Hiring for Millennials should be more about culture and potential than the work itself. Corporate mission, vision and values on how individuals fit a particular culture have direct impact to this group. Millennials will want to come up with dynamic ways to improve production and more effective means to achieve higher morale and profits. Organizations must be willing to allow this transformation to occur. Many companies tend to tell new employees how and what, but today these individuals need and want to be asked and included, not told.

Finding the right talent today is different, difficult and frustrating, yet the key to an organization's success.

Finding the right talent today is different, difficult and frustrating, yet the key to an organization's success. Talent searches prior to 2009 were difficult because the potential hiring pool seemed shallow. As the high volume of construction activities moderated or decreased, companies may not have been searching for talent at a steady rate and, as such, recruiting efforts were lessened. As the market continued to intensify with more jobs becoming available in early 2012, qualified personnel may have been more readily available. More availability means Millennials can be more selective, and this just exacerbates the current war for talent.

Today, qualified individuals may be available, but their attitudes, desires and needs may have changed. How does a company win the talent war? The answer is complicated and frustrating. Here are the types of questions organizations may be asked from potential hires within this generation:

- What is your company culture, and how does this encourage me to feel as though it is a place I want to thrive?
- What separates your organization from others — how are you an employer of choice?
- How much training and development can you offer to assist me in growing within my career?
- Do you have a mentoring program, either formally or informally?
- What rewards and recognition do you offer?
- Will I have a healthy work-life balance of my choosing?

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If these questions make you think (or cringe), then you may have some work to do as it pertains to hiring and retaining the best talent for your organization. The challenge of where to find these potential employees is considerable. According to CareerCast.com, on a list for best-worst jobs of 2013 (based on five criteria: physical demands, work environment, income, stress and hiring outlook), construction worker ranked 171 out of 200. This is not good news

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when trying to attract a group of young individuals. In 2007, when the economy was capable of producing high profits, new talent was scarce, and we were reaching the limits on finding the best and brightest at the right price. Now in 2013, significant talent exists, but their needs have changed. What they want and expect is not what we had to offer in the economic market of 2008 through 2011.

Since technology and the needs of the generations have changed, hiring practices and the way we search for the top talent has to change as well. Finding the appropriate individuals to meet our needs is difficult. Creative recruiting is important to engage the Millennials. The days of ads in the newspaper are lost on this group. Today recruiting, hiring and interviewing are different. How different? Consider this: Websites such as www.constructionjobs.com, www.monster.com and www.indeed.com all are good resources for advertising, but today's generation is much more sophisticated in finding careers.

Networking is the direction for them; Facebook, Twitter, LinkedIn and other social media sites are where they meet. While this may not sound like a novel approach, the Millennial generation is a culture of group-belonging. Millennials are not individualistic in their philosophy, so they want to work where they feel a sense of fitting in. Millennials can actually increase the talent pool organically because they talk among themselves. Millennials can and will often bring others with whom they feel comfortable into the recruiting process. CareerBuilder, jobs.com and craigslist are fine, but creative recruiting is essential to find and hire the right talent in today's new work environment.

If you want the organization to continue to succeed past the next 25 years, then consider that Millennials are key to further success.

The new workforce is understandably a challenge for the current generations of leaders, from the clothes Millennials wear to the way they think about work, client satisfaction and profit. Millennials shape of the future of organizations because they are entering the workforce at a steady pace. If you want the organization to continue to succeed past the next 25 years, then consider that Millennials are key to further success. Finding the right fit is the challenge; talk to these bright and unique individuals and listen to what they can offer.

In an age where change is constant and technology reinvents itself routinely, this young group of future leaders has insight, intellect and desire. Today's HiPos (High Potentials) or HiPers (High Performers) can and will find other talent to join the workforce if asked. The Millennial generation is different from the Boomers and Gen Xers, and that is a good thing. ■

Randy Nemchin *is a senior consultant with FMI Corporation. He can be reached at 919.785.9301 or via email at rnemchin@fminet.com.*

[1] Retrieved from http://online.wsj.com/article/SB10001424127887324874204578439154095008558.html

Contracts for Construction Leaders

By Gregg Schoppman

#47

Understanding the fundamentals of contracts is an important skill that leaders need to gain a competitive advantage over competitors. Construction companies are constantly searching for competitive prices, preferred clients, ideal contractors and other methods of increasing the profit margin. Through the profit-oriented nature of the industry, promises are routinely broken and projects fail to be completed. Broken promises affect the profit margins and can cause additional unexpected costs to the project, affecting the overall performance. Therefore, contracts aim to ensure that construction projects are completed according to the agreements between the parties.

Good contracts are similar to fences making good neighbors — having them improves the relationship. Contracts also promote economic efficiency by ensuring that agreements are completed, insulating parties from additional unexpected costs and providing remedies for any breaches. Contracts are much more than a promise, and certain characteristics are required to ensure that a promise is enforceable through the creation of a legal contract. The common definition of a contract is that an agreement is made between parties and is enforceable by law. Although correct, the common definition is shortsighted and can lead to inadvertent mistakes by a company's leadership. A legal definition, such as an agreement with specific terms between two or more persons or entities in which there is a promise to do something in return for a valuable benefit known as consideration, provides a more thorough understanding of contracts and their importance in construction. Understanding the legalities of contracts is a competitive advantage to construction leaders.

BASIC CONTRACT FORMATION

The creation of a contract can occur at any point during a project, and each project likely includes several contracts to ensure that the specifications of the project are met. The basic elements required for a legally enforceable contract are an offer, an acceptance and consideration.

An offer is a proposal to make a deal by promising to provide a service, purchase goods, abstain from conduct, etc. An offer includes terms that are useful in defining the scope of the agreement. These terms must be specific and definitive to sufficiently identify the promise and allow the offer to be valid. For example, Knowinlaw Construction is the general contractor for a hospital project and is actively seeking bids from subcontractors. A bid from Contractors USA is an offer to perform the work for a specific price. The offer includes crucial terms that, upon acceptance, bind the parties to the terms.

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Acceptance is an unconditional willingness by the party who received the offer to be bound by the other party's offer. The acceptance must comply completely with the terms of the offer without modifications (known as the "mirror-image" rule); otherwise, it is a counteroffer. Depending on the type of contract, an acceptance most often occurs orally or through performance. In our scenario, Knowinlaw Construction can choose to accept Contractors USA's offer, not accept the offer (which terminates the offer), or counteroffer for a different price or condition (which terminates the original offer and creates a new offer, with Knowinlaw now providing the offer). Of course, Contractors USA can decide to withdraw the offer at any time before Knowinlaw Construction accepts it and prevent a contract from being created, as long as the desire to withdraw the offer is communicated to Knowinlaw.

The final basic element of contract formation is the concept of consideration. Consideration is the bargained-for exchange between the parties and is the mutual exchange of value, such as the benefit received by one party and the detriment imposed on another party. It is the reason that parties create contracts. Most commonly, consideration takes the form of money, objects or services. For instance, the consideration involved in our example is Knowinlaw Construction providing money in exchange for Contractors USA's services. Knowinlaw's consideration is the money, and Contractors USA's consideration is the provided service. Agreements usually require consideration in order to be a contract, although there are rare

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situations where an agreement without consideration is still valid; but those circumstances are too technical and advanced for the purpose of this article.

The most common mistakes made in contracts in the construction industry occur during the offer and acceptance phases of contract development. These mistakes usually are inadvertent, but may have a significant impact on the contractor's operations. For instance, specifications on materials and resources may be misunderstood, price quotes incorrectly entered or time estimates flawed. The prevalence of mistakes emphasizes the importance of being precise in the creation of a contract. As a side note, the general rule of thumb is that honest mistakes, such as mathematical errors, are often excusable and relieve the party of the contract.

To summarize, a basic contract requires:

- **Offer** — Terms that define the scope of the agreement (e.g., Contractors USA offering to perform the work for $200,000).
- **Acceptance** — Communicates that the party assents to the offer through conduct, which most commonly includes words of performance; must comply to the terms of the offer (the "mirror image rule") (e.g., Knowinlaw Construction accepts Contractors USA's offer).
- **Consideration** — Benefit that each party receives or expects to receive (e.g., Knowinlaw Construction will receive Contractors USA's services and Contractors USA will receive $200,000).

Through an offer, an acceptance and consideration, a legally enforceable contract is created. Legal contracts use an objective standard to determine the parties' intent to be bound by a valid contract. If it is reasonable that the parties intended to be bound by a contract, then a contract is created and the law will enforce it.

OTHER ESSENTIAL CHARACTERISTICS

Aside from the basic elements of a contract, there are certain characteristics that are essential to maintain contract validity. The parties to the contract must be competent and legally capable of fulfilling their proposal. This requirement mostly applies to individuals who lack mental capacity (e.g., mental illness or inability to comprehend a contract) or to individuals who lack legal capacity (e.g., due to a young age). Another important characteristic is that the contract's subject including the duties of each party must be lawful. For instance, a contract that violates municipal building codes is neither binding nor enforceable since it is based on an illegal premise. A contract also requires free consent of the parties to enter into a contract by not including force, undue influence, fraud or misinterpretation.

A common misconception is that contracts must be in writing and include a signature. This is not true. Contracts can be oral or written. However, there are certain situations when certain contracts need to be in writing, and these situations can be found throughout the construction industry. The statute of frauds is designed to prevent fraudulent conduct by requiring a written record of a contract in a few situations. Although the statute of frauds slightly varies by state, there are a few situations where the statute of frauds requires a contract to be in writing in order for it to be enforceable. Put simply, the statute of frauds traditionally requires a written form in the following examples in most states:

- Marriage contracts
- Contracts by the executor of a will to pay a debt of an estate
- Contracts that cannot be performed within one year
- Contracts for the transfer of an interest in land
- Contracts for the sale of goods involving a purchase price of $500
- Contracts when one party becomes a surety for another party's debt

The last four are most applicable to construction projects, and if an agreement deals with one of those situations, then a contract needs to be in writing to be enforceable. Certain circumstances allow agreements to be enforced even if the agreement does not comply with the statute of frauds, such as when:

- One merchant confirms an agreement in writing and the other merchant, knowing of this written agreement, does not object within 10 days.
- A defendant in litigation admits the existence of a contract under oath.
- A portion of the contract is performed; the agreement is enforceable for the portion of the contract delivered.
- Specialty manufacturing is performed or subcontracted and performed.

TERMINATION OF A CONTRACT AND REMEDIES

A contract is terminated when the parties have completed full and satisfactory performance of their obligations under the contract. A contract also is terminated when:

- There is a breach of contract caused by a party defaulting from its obligations.
- There is a mutual agreement to terminate the contract.
- Unforeseen circumstances render it impossible for a party to perform the duties.
- The contract is terminated due to an operation of law.

If a contract is terminated through a failure to perform by one party, then the other party will likely receive damages.

Contractual damages are primarily designed to provide the nonbreaching party with the benefit that was lost or to "make the party whole." Depending on the type of damages that are awarded, the nonbreaching party will likely receive money damages, restitution, rescission, reformation or specific performance. Money damages mostly are designed to compensate the nonbreaching party for the damages equal to the value that the party would have received if the contract had been fully performed or damages for the cost to complete the project after the breach. The difference is primarily on the stage of the project when the breach occurred; the earlier the breach, the more likely that the damages will be designed to provide the loss value. Restitution is a remedy that restores the nonbreaching party to a position prior to the formation of the contract and can include money or property. Rescission allows a nonbreaching party to terminate contractual duties if that party entered into the contract by mistake, fraud, undue influence or duress. Reformation allows a court to change the substance of a contract to correct any inequities that were suffered due to mistake, fraud, undue influence or duress. Lastly, specific performance is a remedy that compels a breaching party to complete specific duties and is available usually when money damages are inadequate.

ADDITIONAL CONSTRUCTION INDUSTRY APPLICATION

Certain situations in the construction industry provide additional angst. These situations can arise through clauses that are included in the contract. For example, the force majeure clause is used in contracts to free all parties of any liability or obligation for extraordinary events that occur beyond the control of any of the parties. This clause is designed to protect the parties from catastrophic circumstances that could not reasonably be expected to occur during a contract's completion. The force majeure clause would be relevant if flooding occurred that ruined the land on which Knowinlaw Construction was going to build the hospital. The contract between Knowinlaw and Contractors USA may no longer be effective due to this incident, and all parties may be relieved of their duties because the event was not due to fault or negligence. The force majeure clause is often included in the standard terms of a contract so a general contractor should diligently read the fine print but understand that the courts will most often recognize force majeure if the event is completely unforeseeable. However, courts have placed a high standard in proving the application of the force majeure clause to ensure that it is reserved for situations that are catastrophic.

Another clause that causes frustration is the "pay when paid/pay if paid" clause. The most common version of this clause is that the subcontractor is not paid until the general contractor is paid from the owner. This clause is generally within the standard terms of the contract and is largely enforceable in most courts as long as the conditions of the clause are expressed clearly. By expressing the conditions of the clause, general contracts can maintain a "pay when paid" clause that some courts will recognize although the standard is high to prevent other contractual issues such as unjust enrichment.

The "No Damages for Delay" (NDFD) clause is a common clause that is added to construction contracts. Usually the project owner will add a NDFD clause to bar a contractor's attempt to recover payment or compensation due to delays, but allow completion of the project. Courts will generally enforce NDFD clauses except in situations in which the delay is caused by fraud, bad faith or interference. For example, if Contractors USA is not able to perform its requirements due to

Knowinlaw's knowledge of a failure in the plans, then Contractors USA may be entitled to damages for the delay and the inefficiencies it caused, since Knowinlaw Construction was aware of the situation.

Indemnification clauses are added to construction contracts to expand the risk that a party will undertake and shift liability to other parties. It usually applies to additional remedies that are available and obligates one party to certain damages for specific occurrences that happen related to the contract. The definition of these occurrences and the damages are identified and defined in the agreement between the parties. For example, the contract between Knowinlaw Construction and Contractors USA includes an indemnification clause against all damages for personal injuries caused by or in connection with Contractors USA's services. If a personal injury occurred on-site related to Contractors USA's services, Knowinlaw will likely succeed in shifting liability to Contractors USA despite the fact Knowinlaw is the general contractor. This allows Knowinlaw to shift the risk and responsibility.

Few industries require the use of contracts more than the construction industry. Each decision for completing a project likely requires the use of a contract.

CONCLUSION

Few industries require the use of contracts more than the construction industry. Each decision for completing a project likely requires the use of a contract. Therefore, construction leaders need to be aware of the fundamentals of contracts to be better prepared to bring projects to profitable conclusions. Understanding these fundamentals allows a leader to assess a project and make better decisions as well as understand available options. This article aims to provide the reader with an introductory perspective on the basic elements of contracts within the construction industry. It is not exhaustive, and legal questions should be directed to an attorney specializing in construction law. This article serves to provide an exposure to basic contractual elements and to expose the readers to introductory legal concepts dealt with by contractors and other members of the construction industry. ■

Gregg Schoppman *is a principal with FMI. He may be reached at 813.636.1259 or via email at gschoppman@fminet.com.*

The New Watson: Knowledge Management in the Age of Big Data

By Phil Warner

#48

Most agree that it burned at least once. Whether by accident or on purpose, it finally burned down and all is thought lost. The Royal Library of Alexandria, established circa 283 B.C. by pharaoh Ptolomy II Soter, successor to Alexander the Great, was one of the most complete libraries in the world for many centuries. Scholars mourn the loss of what is estimated to be more than 400,000 scrolls containing a wealth of knowledge from ships logs to the works of Aristotle, Archimedes, Eratosthenes and Ptolemy.

Massive and important as the Library at Alexandria was, all the information in the library, converted to text, would fit on the new terabyte-sized hard drives on your laptop. The Library of Congress, according to Wikipedia, has digitized "235 terabytes of data" and "adds about 5 terabytes per month." In the age of electronics, the database is becoming the modern synonym for the older idea of a library. While the Library of Congress is said to have the largest database in the world, one might find it surprising that institutions like the CIA, YouTube, Google, AT&T, Sprint and Amazon rank in the top 10 and are growing exponentially.[1]

> "Mr. Watson — come here — I want to see you."
>
> *Alexander Graham Bell, 1876*

In 1876, Alexander Graham Bell patented the first invention that would lead to the telephone. In 2011 IBM's artificial intelligence computer named Watson won the well-known game show, "Jeopardy." The invention of modern communications and computers has led to the global Internet and the abilities to capture and share information almost instantaneously anywhere in the world and by almost anyone in the world. IBM's Watson is an example of the coming capabilities to capture and analyze that data to answer questions much more complex that those on "Jeopardy" and ultimately help to solve big problems. Nonetheless, the real understanding of all this information is still in the realm of human brainpower. That is also the case when one is considering building a knowledge management system (KMS). The hardware is important, but it is still up to people to build it and, more importantly, understand and use it.

TURNING DATA INTO UNDERSTANDING AND ACTION

The amount of data being collected and stored today is beyond mind-boggling. Nevertheless, despite all those bytes of data, can we call all that stuff, stored in the clouds and in highly secure databanks, knowledge? Several experts note the importance of making distinctions among the terms "data," "information," "knowledge" and "understanding."

According to Russell Ackoff, a systems theorist and professor of organizational change, "Data is raw. It simply exists and has no significance beyond its existence (in and of itself.) Information is data that has been given meaning by way of relational connection. Knowledge is the appropriate collection of information, such that its intent is to be useful. Knowledge is a deterministic process. When someone "memorizes" information (as less-aspiring, test-bound students often do), then they have amassed knowledge. Understanding is an interpolative and probabilistic process. It is cognitive and analytical. It is the process by which one can take knowledge and synthesize new knowledge from the previously held knowledge. The difference between understanding and knowledge is the difference between "learning" and "memorizing." People who have understanding can undertake useful actions because they can synthesize new knowledge or, in some cases, at least new information, from what is previously known (and understood). That is, understanding can build upon currently held information, knowledge and understanding itself."[2]

The amount of data being collected and stored today is beyond mind-boggling.

The importance in the above distinctions is that, for data to become useful and rise to the level of understanding, it needs to go through the process of becoming information that is combined to become knowledge, which can in turn be analyzed and published or discussed at the level of understanding. One may win Jeopardy on the basis of memorization of knowledge, but in business or science, the real benefit of knowledge is to elevate it to the level of understanding that can lead to action and the creation of new knowledge. Understanding and action should be the focus when considering the design of a successful KMS. However, it is important to ask who will do the understanding and who will take action. The user base and company culture are the factors that will make or break a knowledge management system; there are no longer any real limitations in the world of data storage and retrieval. We have the technology, as they say, but can we understand how to use it?

Most business organizations today have databases that can be searched to provide information. Customer lists, accounting records, estimating data, job records and personnel history can all be programmed to provide a stack of periodic reports. Some of those reports are necessary and useful, and others are just time-consuming ways to make work and fill up files. It is the task of some people to keep the databases cranking out reports, but it may not be their job to determine the necessity or usefulness of those reports. However, most canned reports are not readily searchable when the information sought is beyond the norm, that is, more freestyle inquiries like, "compare the costs of construction crews working for customers in the Southeast with the rate of project payments." An unusual question used for the sake of example, perhaps, but we can make inquiries of this nature using most modern Internet search engines, so why not be able to do this with the information generated in our own company? Depending on what is asked and how it is asked, one can get responses ranging from garbage to the exact information required. Sometimes it may take hours to wade through the results of an Internet search, but that is nothing compared to having to spend several days going through old paper files, traveling to the library and/or making 20 phone calls to find what you need.

Probably the most important repositories of untapped knowledge are in the minds of key internal experts and seasoned veterans. Only in the movies can we hook electrodes to their brains and download their life histories.

One of the first things people notice when trying to get more information from their internal databases is that the various repositories of data do not "talk" to each other. That is, they are not relational or even connected. If a firm has a number of offices across the country, it is likely no single person (or computer) in the company knows what data is being kept. This is not only duplication of effort, but, more importantly, it amounts to information hoarding, whether intentional or not, and does not make the best use of vital knowledge within the company.

For contractors, the question of how to get the entire firm's vital information in one searchable and useful database arose more frequently when CAD, and now BIM, software was introduced to the construction process. Once the technology was available to create and change electronic drawings that are available to anyone who needs to know, it was a short step to see the benefits in tying together the information for drawings, materials, project documentation, scheduling, "as builts" and maintenance records. The advantage of having one big project database is the Holy Grail of information control, but there are still gigabytes of information back in the office that are not yet searchable or even in electronic format.

Probably the most important repositories of untapped knowledge are in the minds of key internal experts and seasoned veterans. Only in the movies can we hook electrodes to their brains and download their life histories. However, there are a number of less threatening and more useful ways to capture that knowledge and experience beyond the normal benefit of having them on staff. For one, there is mentoring, which pairs your best people with those of the next generation that will one day take their place. Another way that provides some real knowledge to help build a useful KMS is to involve the veterans in creating special reports or opinion pieces on selected topics or problems that can be available to others in the company as needed. This approach is not just for those seasoned veterans, but also for anyone in the firm who needs to take his or her understanding to the next level. This approach takes advantage of all of the information inside the firm and outside resources as needed. In fact, it is a good first step toward determining the needs of a KMS within the firm. As these reports are generated, ask how long they took, what information was needed that was difficult to obtain, what the results were of the research, whether the information was used in the field, etc., in order to fine-tune the process.

ENTER KNOWLEDGE MANAGEMENT

The challenges of managing files and getting one database to link with others fall mostly in the realm of the IT department. The solutions are largely software-based, time-consuming and expensive. Unfortunately, this is where many companies start when it is determined that "we need a knowledge management system." The software becomes the star of the show. Largely, this is because most advancement seems to be in the realm of software and hardware, and if you ask the IT department to build a KMS, this is what it knows about. However, this approach is likely the reason so many attempts at creating knowledge management systems become costly failures or have less-than-the-desired results with greater-than-the-budgeted expense. The following definition of knowledge management is from a recent article citing earlier work from the Gartner Group:

> Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously uncaptured expertise and experience in individual workers.[3]

While this is a good starting definition, one thing it leaves out is the creation of knowledge that leads to understanding what is useful to the organization. Does the firm spend the time and money to collect every jot and tittle the organization produces or receives? Actually, with the comparatively low cost of data storage these days, this is more and more feasible; but if it means more data entry, say at the field level, then think twice about what data needs to be recorded and saved for future retrieval. Consider also whether that information is readily available from other sources, such as weather history or stock market data. Most data has a shelf life, so think about how long to keep it and how often it should be updated.

Whether you are creating a dynamic knowledge management system or just improving an electronic filing system, there are large amounts of information that a business needs to save and easily retrieve for legal, financial reporting and regulatory compliance reasons. This information includes accounting records, safety records, employment data, health insurance records, a mountain of project data and drawings, and other information depending on the types of business and regulatory statutes. Most businesses these days have converted to electronic document control systems to capture, store and retrieve this information. However, those systems do not become part of a knowledge management system until they are somehow linked and the information can be searched and retrieved on an ad hoc basis as needed and then analyzed to give answers for business advantage. This may include compliance to new regulations as well as data mining to understand marketing prospects or production efficiencies, etc.

Whether you are creating a dynamic knowledge management system or just improving an electronic filing system, there are large amounts of information that a business needs to save and easily retrieve for legal, financial reporting and regulatory compliance reasons.

Whether electronic or not, database technology can quickly become outdated as we enter the era of big data where every bit and byte of information possible is collected for later analysis. In times when profit on a job is hard to come by, all of this information processing is expensive and can be difficult to justify. Therefore, when you say, “We need a knowledge management system around here,” also ask the following questions:

- What is meant by “knowledge” (as opposed to data management, for instance)?
- What problems would a knowledge management system solve?
- Who needs what information, and how fast do they need it?
- What is the cost (consider start-up, maintenance and system life expectations)?
- How will the effectiveness of a knowledge management system be measured?
- How will the knowledge base be safeguarded?
- Will our people use it and contribute to its updating and maintenance, etc.?

These are just a few places to start. All are important, but the last question is maybe the most significant and most likely to be overlooked until after the new system is in place. Ultimately, as in the definitions provided, data and information are not knowledge until analyzed, shared and useful to further the understanding, which might lead to improving processes, better business development, process efficiency, research and development and so on. If you poke around the organization, there is a wealth of knowledge available right now, but it is locked in the memories of inside experts and senior staff, or it is maintained in protected silos for job security or prestige. Employees have created their own proprietary systems to help them manage their own or the department's knowledge, but it is not easily shared, because the company culture does not encourage or reward that type of collaboration. Consider that an employee has spent hours and years gaining some particular knowledge that gives him or her an edge over others in their position. Why should he or she just hand it over to someone else who has never done the work? That is a good question and the answer goes beyond the obvious: "Because they are employees and that information is the property of the firm." If not handled carefully and the desired behavior rewarded, such attitudes will continue, and the advantages of that knowledge will be lost.

The burning of the Royal Library of Alexandria was an historical tragedy, but it is more than just the cautionary tale of a failure to have backups. We think of what could have been done with all of that knowledge; how much would it have contributed to our knowledge of the past? In business, if we lose or cannot access the knowledge that is all around us, we lose the advantage of learning and the use of that knowledge to improve our services, products, processes and, ultimately, success. We are now going beyond the information age to the next age of big data, data mining and analysis that will create new solutions to huge problems. The largest organizations are grappling with these issues now and taking advantage of them. The technology is not so big that medium to smaller organizations cannot take advantage of it as well. "Watson — come here." We have a few questions. ■

Phil Warner *is a research consultant with FMI Corporation. He can be reached at 919.785.9357 or via email at pwarner@fminet.com.*

[1] Retrieved from: http://beyondrelational.com/modules/1/justlearned/0/tips/9212/top-10-largest-databases-in-the-world.aspx)

[2] Bellinger, G., Castro, D. & Mills, A. "Data, Information, Knowledge, and Wisdom" Retrieved from http://www.systems-thinking.org./dikw/dikw.htm.

[3] Koenig, M. (2012). "What is KM? Knowledge Management Explained." Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx

Seeking Alignment: Bridging the Silos

By Jim Schug

#49

Competitive advantage in the engineering and construction industry used to be easier to get. With that advantage came solid profits and plentiful work. The market that evolved out of the most recent recession appears to remain hypercompetitive, and many would argue driven only on price. This new reality seems here to stay; companies can no longer expect easy growth and profitability for only mediocre performance.

On work bid, there is little or no time or budget remaining for rework, unrecognized scope or inexperienced trade performance. Many will find themselves outbid by competitors that created a great business model and excellent operations to match. The firms that adapt to the new market will emerge from the recession faster to market and will drive change to provide more value to customers. There are some business practices in construction many take for granted or assume are effective by "checking the box." Techniques such as checklists can be immediately effective, but their value can diminish quickly without a long-term commitment, continued adaptation to customer needs and great leadership. As a result, some tactical techniques can create only further confusion across the company. Done correctly, effective business leaders know that sustainable operational excellence can create a lower bid and still allow room for a higher profit margin.

Market advantage seldom is gained by one or two well-implemented ideas. Rather, an organization that can rapidly adapt and implement multiple new ideas will create conditions for success. No longer is it one technique or approach that gives a company an edge over its competition, but rather advantage is gained by companies testing new practices and constantly evolving. In order to create this type of advantage, companies must be great at implementing ideas rapidly. From our work with clients through the recession, there are five steps required to achieve operational excellence:

- Align operations with strategy
- Create simplicity and effectiveness
- Lead effectively
- Develop best practices with the customer in mind
- Constantly improve

ALIGN OPERATIONS WITH STRATEGY

This allows focus and discipline on important issues, relating operational performance to the direction of the company. Most companies have many initiatives. Operational initiatives should not exist in isolation. Great companies focus on those tasks that tie in to the company strategy rather than lower return items that eventually resolve themselves. Tying operational initiatives to company strategy also allows for a natural motivation or rallying cry to achieve results. By doing this, the leaders can focus on what is essential while the company continues building projects and remains disciplined to follow through on the initiatives it starts.

CREATE SIMPLICITY IN OPERATIONS

This starts with achieving clarity in how we are performing today. It requires integrity in information across the company. In order for you to improve your physical fitness level, you must know where you stand today and be honest about how much you are working out. You will certainly hit a roadblock if you tell your trainer you are running 30-mile weeks, yet are not losing weight because in reality, you are running three-mile weeks!

Once this clarity is established, the field and office can communicate clearly around the truth. Labor budgets, cost code tracking and costs to complete are three systems that become most clouded. Each of these, when unclear, can create drastic consequences. Simple formats are understood easily and used often. The same applies to developing best practices. The simpler they are, the more likely they will be followed through the chaos of day-to-day operations. Reduce tasks to the vital core elements and execute them. This simplicity may come in the form of software. Too many companies are re-entering bids in the accounting system, wasting time and energy and potentially complicating matters with input errors and incorrect office staff understanding.

LEAD EFFECTIVELY

Getting direct reports to follow new best practices is no longer achieved by direct orders from the top of the company. Influence is more effective than imperatives. Influence requires great leadership in engaging others and creating a common cause or vision of the future, in order to motivate through and achieve the desired change. By understanding and connecting these initiatives with the individual motivations of each direct report, you can connect each of them to a desire to achieve the goal. Compliance for compliance sake is not effective leadership. Society has shifted from rote-rule following to a broader application and understanding of the fundamentals. This broader understanding allows for adaptations and continued improvements, refined and largely "directed" from the field.

Leading by seeking engagement from your company requires more energy, does not happen quickly, but has much longer and lasting effects. Building a vision for the future and clearly communicating it across the organization so that those implementing it understand the value of their efforts is essential to great organizations.

DEVELOP BEST PRACTICES WITH THE CUSTOMER IN MIND

Depending on the company and process discussed, defining the customer may be hard. Every best practice should have a clear purpose and customer identified. Establishing a goal will help keep the system simple and connected to "the bigger picture" and enhance effectiveness. Determining purpose, customers and goals can become complex with a number of best practices — accounts receivable for example. This can be a great discussion if done correctly. The discussion sometimes changes the orientation of the office staff to recognize how important a role they play in managing the customer. Accounts receivable folks are typically the last in the construction company to "touch" the customers and sometimes it is done in a less than cordial way. Another typical example is pre-job planning. Identifying the customer and purpose yields great insights for those executing the process and often takes us beyond the project binder handoff only.

CONSTANTLY IMPROVE

The recession has created a search for improvements across the construction value chain. Vendors and suppliers of all types are eager to add value to the project by helping reduce costs. There are many systems in place that result in great benefit upon implementation. Some of these include GPS-automated grade and location systems, telematics, digital/remote time cards, Building Information Modeling systems, digital estimating, online plans and bidding collaboration rooms and more. Many of these are in use across peers today and are proven methods to improve productivity and reduce costs.

The recession has created a search for improvements across the construction value chain. Vendors and suppliers of all types are eager to add value to the project by helping reduce costs.

Aside from this, many clients of ours are working directly with vendors to modify tools in development. Some call these collaborative project sites beta or "pilot" sites. Project and vendor teams help design and improve the tools while gaining an advantage and providing input to equipment or software vendors.

Equipment manufacturers are constantly seeking feedback and input to redesign their fleets. Software vendors are often looking for focus groups. Companies that are the first to implement these efficiency-laden ideas will gain immediate advantage in the market until competitors catch up, which often happens during the regular product release and fielding for the vendor when the product goes to market

Generations transition, new competitors arrive in the market, geographic growth and expansion happens, customers demand different or new pricing, acquisitions happen.

CONCLUSION

Operational excellence is a constant journey. Seldom do companies have either strategies or sets of customers that stand still. New employees and leaders cause a decrease in institutional knowledge over time. By maintaining a constant focus on improvement, adaptations to customers and strategy will happen and new employees will become trained as the older employees seek their input to revise and improve how things are done.

Every company has levers that it can pull to improve operations. These may include training, leadership, lean operations, automation, technology or many more. None of those levers is a magic pill that will make an immediate impact when operated alone. As an example, engaging project managers in training alone will not create great operations. Similarly, just providing safety training does not create a safer company. It is a good first step, but must be followed by leadership, reinforcement, accountability and more.

In the same regard, there is not any one-size-fits-all solution to developing best-in-class operations. Companies do not stand still. Generations transition, new competitors arrive in the market, geographic growth and expansion happens, customers demand different or new pricing, acquisitions happen. None of these changes lead to success unless we can execute effectively. Each set of customers, employees and services creates unique operational requirements that create opportunities for operational improvements. Knowing which initiatives and combination of levers to use for each context is critical to operational excellence. The principles above will assist in implementing change and creating an organization that can successfully adapt to the new and demanding environment. ■

Jim Schug *is a senior consultant with FMI Corporation. He can be reached at 813.636.1254 or via email at jschug@fminet.com.*

Can You Afford NOT to Train Your People?

By Matt Marshall and Scott Moyer

#50

Leading a construction or engineering company involves many moving parts. Leaders work diligently to do more with less while maintaining quality and meeting the needs and expectations of the client.

In leading a construction or engineering company, who:

- Interacts with our clients and prospects?
- Reviews the specifications and develops the cost estimate?
- Operates and maintains our equipment?
- Manages the laborers in the field?
- Puts the work in place?

Answer: Our people. Whether we treat them like it or not, our people are our greatest asset and can be our most prominent differentiators or greatest liabilities. Creativity, innovation, pride, hard work, efficiency, safety, client care — all start and end with our people.

As leaders in your organizations, do you feel there is a strategic imperative to train your people? How do you intend to compete with firms that hire, train and retain high-quality people? In our experience, firms with robust training and development programs are comprised of employees who understand how their actions affect the finished product, the bottom line and client satisfaction. When clients are asked in a qualifications-based selection why they selected a contractor or engineer, more often than not the answer is because of the people the contractor or engineer proposed to them. The majority of the time, selections are made not solely on price, but on a strong and trusting relationship nurtured between a client and a contractor or engineer and the specific experience of the people proposed. People select people to deliver projects — not systems, materials, equipment or installation techniques.

An acknowledged challenge in our industry is the war for talent. As baby boomers retire or prepare to exit the workforce, there are not enough Gen X-ers and Millennials to fill the void. If you were looking for a job, would you join a firm whose employees raved about their company's robust onboarding-orientation program, its industry-leading safety program, comprehensive personalized training and development program, and formalized mentoring program? Alternatively, would you join the firm that said, "Trust us. We'll tell you what you need to know on the job." In today's tight job market, firms with formalized and successful training and development programs will attract and likely retain the best and brightest.

BENEFITS OF TRAINING

People are people — not machines. However, let's assume for a second that the superintendents out on the job are bulldozers. The dozer comes straight from the dealer to our worksite shiny, primed and ready for action. After a thousand work hours, some hoses start to break, lines need to be flushed, oil should be changed and certain parts replaced. The dozer (or our superintendent) has gotten through the initial excitement of getting on the job, but is now faced with new challenges. These challenges have caused parts to break, general wear and tear, and reduced performance. In the case of the dozer, we hire a specialized mechanic to come in, provide maintenance and fix the broken parts. Similarly, the superintendent needs training and mentoring to improve performance and reliability. The training could include improving communication skills to enable the superintendent to better interface with the project manager or client; possibly leadership training to learn to motivate, inspire and truly lead their crews; or project execution to help his or her team execute its tasks more efficiently.

With any job, there are general knowledge and skill requirements that are needed before someone can effectively perform the roles and responsibilities of that job. However, as jobs, companies and individuals change, training needs to occur to increase that individual's level of knowledge and skill enable them to tackle new challenges. In the example of the superintendent, we suggested communications, leadership and project execution training to handle unique aspects of his or her job. After the superintendent receives training, he or she will have new skills to use on the job. These results are referred to as primary outcomes.

Primary outcomes are the main results of an initiated training program. Primary outcomes usually are established by creating focused objectives based on some level of "pain" noticed by an individual or upper management. These primary outcomes also should be aligned with corporate strategy. Primary outcomes are the main goals that management hopes to achieve by initiating a training program. Primary outcomes generally are used to measure return on investment (ROI) for training programs.

Secondary outcomes are often overlooked, but are a direct result of a training program. When a training program is initiated with an individual or a group of people, a secret handshake occurs in which a business says, "I'm making an investment in you." Although this is almost never spoken, the employee feels that he or she are getting special and focused attention. Improved self-esteem and belief that the company finds him or her valuable creates longer-term, loyal employees as a secondary outcome. FMI found in its 2011 Talent Development Survey that 56% of construction companies used training as a corporate strategy to retain employees.

If employees do not feel as though they are being challenged or getting the skills needed to grow and develop, they will start to look for an opportunity at a company where they will be stimulated and nurtured.

WHAT HAPPENS IF WE DO NOT TRAIN?

For those companies that do not see a need to invest in training, the bottom lines could be affected in much bigger ways. First, if employees do not feel as though they are being challenged or getting the skills needed to grow and develop, they will start to look for an opportunity at a company where they will be stimulated and nurtured. This can lead to high attrition rates, which causes lost productive time, organizational inefficiencies and increased recruitment costs. Second, it causes perceptions, both internal and external, that the organization is not on the cutting edge and does not focus on employee development. To an external client, your company may lose work for not being as "sophisticated" to handle the demands of the modern workforce. To a perspective employee, you may be passed over as being behind the times or uninterested in growth and development. Both of these results combine to lower profit margins.

The investment in training your employees keeps them focused and on the cutting edge, while providing skills they need to grow within your company. Not training them creates negative consequences that lead to higher attrition rates, not being the employer of choice and lost projects and profits.

ROI IS IN THE EYE OF THE BEHOLDER

For every dollar you invest in training, you want to be able to say you realized X dollars in return. Nobody wants to invest money, time and energy in a venture that will not achieve the desired objectives. To measure ROI for training, you must begin with the end in mind. Training must be aligned with your strategic plan. This involves developing a training program that:

- Addresses the gaps between the existing and desired state of competence in your employees
- Defines the outcomes you wish to achieve
- Holds people accountable for implementing what is learned
- Rewards your employees for embracing and making a change

If this is executed correctly, you will realize an impressive ROI. In 2000 the American Society for Training and Development (ASTD) collected training information for more than 2,500 firms. The findings indicate that companies that offer comprehensive training to their employees have 24% higher profit margin than those that spend less on training

Measuring ROI for training should not be entered into lightly. Often the ROI is in the eye of the beholder, so to speak. It can be difficult, but not impossible, to empirically measure improvements realized through effective training. Productivity, efficiency, quality, safety and client satisfaction are a few examples of things that can be measured to calculate an ROI for a training program. However, to be successful, management has to build the ROI approach into the design stage of the training program. Management must be prepared to benchmark current "soft" and "hard" data, select and set specific measurable goals, and collect and review the data at some prescribed point or points after the training has been implemented to evaluate its financial benefits.

CONCLUSION

Training is often considered discretionary spending, especially during tough economic times. Training should not be considered a discretionary expense; it should be viewed as a worthwhile investment in your company's present and future. Just as we make monthly contributions to our 401Ks and retirement plans, companies should make this same investment in their people.

Many times we hear the slogan, "Our best asset is our people." For the asset value of people to grow, a company needs to invest in training and developing the knowledge and skills of its people. It is the people who lead the organization, who drive sales, who put work in place and who manage the projects. Organizations grow and evolve just like the business world. Training keeps our human assets sharp by providing tools to help employees step into new roles, face new challenges and manage their day better. It can create leaders, drive efficiencies and teach new skills. People, naturally, need to be accountable for improving their skills and using them for the company to realize a return. Hiring people without providing career-long training is like planting a fruit tree in the desert. It is not going to thrive or grow. The tree needs good soil, water and nutrients to take root and blossom into a fruit-bearing plant.

Ignoring the strategic imperative to provide training to your people can lead to lower morale, your competition gaining an advantage, lost projects, damaged client relationships and margin fade. The perception of your company, both internally and externally, might be one that is slow and out of touch with reality. This can cause attrition and lost work based on perceived value — all of which are extremely expensive and easily outweigh the costs of training! Continue to invest in the future, create value and keep morale high by training the future of the organization. Can you afford NOT to train your people? ■

Matt Marshall *is a business developer director at FMI Corporation. He can be reached at 303.398.7289 or via email at mmarshall@fminet.com.* ***Scott Moyer*** *is a consultant with FMI. He can be reached at 919.785.9350 or via meal at smoyer@fminet.com.*

Building Business Acumen

By Kevin Kilgore

#51

What does it take to be a successful senior executive of a contracting company? Is there a special combination of insight, intellect, experience, knowledge, skills and ability that comprises the character of a contractor? Are contractors born or built? How do successful companies create a pipeline of talent to build the next generation of leaders?

To answer these questions, we parse the qualities of a successful senior management team (SMT) member and what it takes to become one. In short, this article will condense the observations from years of working with great leadership and define what the best SMT members have and how it can be developed. Herein we explore paths and options to building business acumen (BBA).

DEFINING BUSINESS ACUMEN

Business acumen is a holistic knowledge of the entire business. Business acumen implies a bundle of knowledge, based on experience that is both broad and deep. The Oxford English Dictionary defines acumen as "the ability to make good judgments and quick decisions." Business acumen is characterized by an ability to understand a situation or problem and come up with sound, practical, workable solutions. What are the qualities of business acumen that high-performing construction executives possess?

Entrepreneurial spirit — the ability to seek and seize opportunity. Adaptability and appropriate risk-taking are highly valued skills of SMT members. In Beyond Entrepreneurship (1992), Jim Collins provides thorough insight into the attributes required to build a successful enterprise from a concept.

Strategic vision — the ability to see patterns, anticipate trends and create a successful outcome. A global view of the world, your marketplace, clientele, the company and your people come together in the mind of a high-level executive. The best are able to evolve an idea into a plan, then to rally the team to execute to success.

Leadership — in every sense of the word. Libraries are filled with definitions of high-quality leadership, and it always resides at the top of great companies. The FMI leadership model is a useful study for any aspiring SMT member, as is learning to walk the talk. BBA aligns with our core concepts of leadership — setting direction, aligning resources, motivating people, driving change and building quality relationships. The best SMT members make growth in leadership skills a lifetime pursuit.

Management — a commitment and rigor to company procedures, structure and systems. The aim of good management is no surprises in our performance — we want dependable, predictable results. Even without ISO standards, our consistent methodology and systems produce expected outcomes. There is no substitute for planning, organizing and controlling your work, with an eye to continuous improvement of your methods.

Human touch — The best senior executives get the top results from the people around them — they are great team players. Of course, the best leaders also attract high-quality talent and develop it into the next generation of leaders. Call it people skills, core skills, leadership, communication or all the above — working well with people is a baseline core competency for a senior executive. Talent identification, attraction and development are not accidental; they are the result of valuing people for all the right reasons. Great executives make the science of people a core skill. They study and therefore know about motivation, recruiting and hiring best practices, performance management, talent retention and development of people. HR duties are not just a requirement of their job – people are the reason for their work. Quality SMT leaders have earned their rung in the ladder by helping others up the ladder; they are leaders because they have followers. The future of the business is also secure because quality senior executives know the best succession planning is a deep bench of developing talent.

WHY PEOPLE STAY WITH THEIR CURRENT EMPLOYER

- Company longevity and reputation
- Opportunity for career development and personal advancement
- We provide strength and stability
- We build exciting, challenging projects
- We have a solid strategic direction
- Company culture — fun place to work
- Competent, smart associates
- Rewarding compensation, bonuses, and benefits
- We care about our people
- Geographic diversity creates stability
- We live our values
- Job security
- Professionalism

DEVELOPING BUSINESS ACUMEN

The best companies develop their own talent across disciplines, including their leadership qualities and management skills. People hired for specialist positions, such as estimators, project managers, field managers, safety technicians, financial administrators, etc., generally make a career in their chosen area of interest. Businesses need the depth of expertise that specialists provide.

There is also an insatiable need today to discover and develop the next generation of business leaders who have the ability to understand the entire business and meaningfully contribute across business units (i.e., generalists.) SMT members must have the ability to nurture strategic thinking throughout the company and lead the technical (specialist) managers. Senior managers understand the interconnection of each department and their contributions to achieving overall company goals.

The best companies seek out people who are "students of the industry" — career contractors in search of greater knowledge and opportunity.

In some cases, it will be easy to identify individuals who stand out by making special efforts to improve their skills and industry knowledge. Look for generalists who have people and leadership qualities. Watch for people who seek personal growth and a managerial (not technical) career path. The best companies seek out people who are "students of the industry" — career contractors in search of greater knowledge and opportunity. Choose wisely, because this group will require a significant investment to fully develop into future leaders; most often, developing them is a three- to 10-year development project.

There are a variety of assessment tools to choose from to create an objective gauge for current skills and personal characteristics of SMT candidates. Some examples of proven testing instruments that are regularly used include:

- DiSC – personality profiling
- MBTI – Myers-Briggs Type Indicator
- Proscan
- Profile XT – matching current abilities to a success pattern
- PI – the Predictive Index
- IQ or intelligence tests
- EQ or emotional intelligence (maturity) evaluations
- 360° review (by peers and managers)

The Business Acumen Assessment (BAA) is a tool for management to gauge an individual's strengths and competencies in specific areas. As a subjective self-assessment tool, the BAA is valuable as a review and goal-setting document for discussions between the employee and the manager. Gaps between the employee and management are fertile development opportunities. The results of the BAA then lead to a plan for personal and professional growth. After scoring the BAA, creation of a personal development plan is the next step in the process.

HOW TO CREATE A PERSONAL DEVELOPMENT PLAN (PDP)

In general, learning to achieve business acumen goals falls into four areas:

- Technical skills. How to perform well in a specific role.
- Process skills. The processes and procedures of how the company runs.
- People or core skills. These skills are generally thought to be innate, but experience has shown they can be developed. The objective is to sharpen leadership skills.
- Business acumen. This is where the next-generation senior management team gains a holistic knowledge of the business.

Research shows that people learn best by doing. To build executive and managerial skills, people need to take on challenging roles. To build business acumen, look for ways to expand your high-potential group's direct involvement in company expansion efforts and innovative roles. These are your "high potentials" — your future leaders whom you are grooming to run the business someday. The notion is to continually challenge people — stress test them — to be resourceful and enjoy solving new problems and developing new skills.

There are many ways to build the business and your next generation leaders:

- Have them teach their specific skills and abilities to others in a formalized training program.
- Involve them in the company's strategic planning process.
- Move people around the company into multiple roles.
- Involve them in senior management team planning and problem-solving sessions.
- Have them mentor people in another department (out of their normal discipline silo).
- Enroll them in formal education opportunities.
- Provide industry exposure to thought leaders.
- Create a "lunch-and-learn" program around short topics.
- Pair them up to learn from subcontractors and suppliers, engineers or architects.
- Have them teach your standard operating procedures.
- Have them gather "lessons learned," war stories (both the best and the worst).
- Assign client responsibilities, for instance, as a project executive.

The opportunities to provide career development to your next generation of leaders to understand the entire business and meaningfully contribute across business units are boundless. The outcome of the BAA assessment is to create personal development plans — specific talent development plans — for the SMT of the future. ■

Kevin Kilgore *is a principal with FMI Corporation. He can be reached at 303.398.7272 or via email at kkilgore@fminet.com.*

Cross-Generational Differences: Obstacles in Using Technology

By Dustin Bass

#52

Time management is mission critical in design and construction processes from conception to completion. Technology is available to enable more effective time management but generational gaps have often negatively affected technology exploitation. Is it possible that the generational gaps themselves can be effectively bridged through technology?

The purpose of this article is to raise awareness and illustrate the impact of planning and technology to promote cross-generational approaches when trying to increase time-management and productivity efficiencies. Since the early 1960s, productivity in almost all industries has increased while construction productivity has declined. Why and how is that possible? The A/E/C industry's technologies supposedly have allowed us to design, procure and construct more quickly. One viewpoint is that the construction industry has been inundated with technologies intended to increase productivity; however, those technologies intent on increasing efficiencies have ultimately led to generational challenges and resistance that directly impair time management rather than improve it. The construction industry has become self-reliant upon haphazardly used technology to solve the problems faced while ignoring basic principles of planning and self-management.

Current lean profit margins and competitive pressures make it more important than ever to effectively manage time. Schedule constraints are becoming shorter while job complexities increase. Contractors that can effectively manage time will be more profitable in the short term and long term. Construction professionals of all generations and levels of organizational responsibility need to understand the basics of time management. Employees, colleagues, leaders and managers must also understand their organizational roles in addition to their project-specific responsibilities. In doing so, efficient time management practices can become comprehendible, actionable and shareable in a timely manner.

According to FMI research[1] the five greatest challenges to improving productivity are:

- Lack of planning skills at the field-management level
- Lack of communication skills at the field-management level
- Cultural resistance to change
- Poor field-level communication between project management staff and field managers
- Lack of technical training

Each of the five greatest challenges to productivity directly or indirectly relate to poor time management and perhaps insufficient planning skills and techniques. Weak time-management practices provide the breeding ground for reactive behaviors. Is your company always putting out fires? If so, it might need to address its time-management practices, both individually and organizationally. Exploring several of those challenges can help your business become more efficient and ultimately more productive, while using technology to plan and communicate across generational gaps within organizations.

CROSS-GENERATIONAL PLANNING

Field staff must understand the importance of proper planning and, more importantly, the importance of communicating the plan. All employees of construction companies exist to ensure that work is put in place. Think about that statement for a moment. With the exception of site-stored materials, the trigger that allows a construction company to bill for work is the action of putting work in place. All other efforts made are to support the completion of that work. The only way that field-level managers can drive work is by properly communicating their schedules, plans and needs to all levels of the organization. How plans are internally and externally communicated greatly affects job productivity and profitability.

Different generations communicate, plan and manage time differently. Older generations tend to be more comfortable in hierarchical structures and use rudimentary technologies to communicate, whereas younger generations rely upon shared information technology and other mediums to communicate. Field-level managers need to be able to plan and forecast weekly plans to their superiors. If you are planning for today, then you are too late. Project managers need to make plans for the week, month and year. Project executives need to make plans for the month and year. Technology is not a substitute for the knowledge needed to plan; however, it offers a mechanism to both plan and communicate efficiently if used properly.

According to Phillip Diab, PMP, CEO of Leadership Formation, "Not addressing intergenerational issues as a part of the early project planning and team-building processes can hurt productivity."[2] Effective conveyance of knowledge and needs within the project hierarchy and across generations is essential to meeting project objectives especially during the planning phases. Such knowledge comes from practical experience, which needs conveying to future leaders by those more experienced. It is paramount that organizations set up formalized structures to transfer knowledge before it is too late. When creating planning best practices, consider the following items:

- Short-term planning (daily/weekly)
- Long-term planning (strategic)
- Establishment of goals
- Prioritization of tasks based on deadline and importance
- Feedback
- Cross-Generational engagement

CULTURAL RESISTANCE TO CHANGE

We have all heard the saying "you cannot teach an old dog new tricks." That statement rings ever true in the construction industry today. How many times have you heard a superintendent, supervisor, tradesman or craftsman say, "I don't need a computer," "I don't know how to turn a computer on" or "I don't know how to use this phone"? With the increased reliance upon technology during the design, construction and operation of the built environment, the successful use and integration of technology is more important than ever. Seasoned professionals who have long kept their knowledge in their heads must now learn to convey that vast breadth of knowledge to future generations, and technology is a way to do so. In order to do so change in some form is inevitable. According to Laura Welch, "more than 40% of construction workers are baby boomers."[3] Within the next five to 10 years, a vast majority of the knowledge base will be leaving the workforce. This shift presents monumental challenges with respect to transferring knowledge, which is a key driver in planning and conveying resource requests and requirements that are necessary to time management and productivity improvement. In order to increase productivity, organizations should implement a cross-generational strategy that leverages technology and the project/organizational objectives.

Why do certain individuals object to change? Why do they reject new technologies and methodologies intended to improve efficiencies? Is it fear of failure? Is it due to excessive pride? Is it complacency? Whatever the reason, organizations must find ways to bridge generational gaps and start leveraging technologies to complement and support time-management efforts. Some common approaches to gaining technological acceptance are:

- Training programs
- Reverse mentoring programs
- Organizational focus on technological importance

One of the best ways to engage and promote acceptance across generations is by developing and implementing a reverse mentoring program. Reverse mentoring is where a more seasoned, experienced or higher-ranking individual reaches out and seeks guidance from one who might not be perceived as being on an equal plane. Reverse mentoring programs should increase planning efficiencies and promote technological change from within, which will ultimately lead to increased productivity.

Reverse mentoring programs:

- Enable the discovery and development of high-potential employees
- Allow for increased cross-generational engagement
- Promote inclusion
- Promote knowledge sharing
- Establish the foundation for a feedback-rich environment
- Relieve technological stress

While individuals across all generations use varying forms of technology to manage time, plan and convey knowledge, the key is to squeeze and leverage the full technological capabilities available to increase efficiency and productivity. Leveraging technological capabilities is most effective once organizations have developed frameworks that enable planning and cross-generational collaboration allowing for change. Frameworks allow firms the opportunity to filter out technological noise, which does not support the organizational goals. Technology is constantly changing and improving. However, if firms are not controlling, using and leveraging their current technologies, they will not be able to maximize their time and improve productivity, because they will constantly seek new technologies while decreasing the effectiveness of their current technologies.

Reverse mentoring programs increase employee engagement and establish frameworks that enable senior-level employees to court and develop a mentor/mentee relationship with one or more of their subordinates. Typically, employees who fall within generations X or Y are more comfortable with technology and promote cross-generational sharing of technology. Reverse mentoring allows employees with seniority the chance to ask questions and learn from younger generations without fear, while also establishing a feedback-rich environment from which younger employees can learn and leverage into better time-management practices.

CONCLUSION

Now more than ever, A/E/C firms must be able to plan, share knowledge and use technology to improve productivity to better position in an ever-competitive construction landscape. A cross-generational approach is the first approach that you should look at when trying to increase time-management and productivity efficiencies. ■

Dustin Bass *is a consultant with FMI Corporation. He can be reached at 303.398.7247 or via email at dbass@fminet.com.*

[1] FMI, Inc. (2009) Contractor Productivity Survey Results. Raleigh: FMI Corporation.

[2] "Minding the Gap: Closing the Generation Divide in Project Management." www.pmi.org. Project Management Institute, Inc., 31 Mar. 2013.

[3] Welch, Laura (2010). The Aging Worker in the U.S. Construction Industry. Occupational Health and Safety. Retrieved from: http://ohsonline.com/articles/2010/03/01/the-aging-worker.aspx.

The Value of Training in Good Times and Bad

#53

By Shirley Ramos

The construction industry is beginning to see the light of day. Companies are no longer struggling with layoffs and are beginning to hire again. The anxiety of paying the bills is being replaced with thoughts of growth and expansion — or at least getting companies that survived back to what they once were.

However, as the pendulum swings, there appears to be a completely new set of issues. The once bountiful supply of construction workers and craftsmen has dwindled to a select pool, as the "30-somethings" had to look for jobs in different career fields, having been let go from the industry during the economic downturn. The gap in the current construction workforce mimics an hourglass, with a high percentage of seasoned and skilled workers with visions of retirement at one end and a crop of the fresh, yet unskilled and inexperienced employees filling out the other. There is a narrow and limited group that sits between — those who would be described as experienced and skilled, but also in the prime of their career. These are the current and future leaders and are key to taking the knowledge and skills that can only be learned by working alongside journeymen and tradesman and passing that knowledge down to the newest to the industry. These are truly the few and the coveted.

There is a clear understanding and acknowledgement in the construction industry of the need to get those new to construction ramped up quickly and that doing so will require training. However, having difficulty justifying concrete ROI for training initiatives, many companies either downsized or disbanded their internal training organizations, or reduced their external training budgets in order to actively address new and rigid budget constraints during troubled economic times. In the last recession, for example, some companies reduced training headcount, others restricted training events or the number of classes offered, and yet others deleted the budget line from the spreadsheet altogether. Recouping budget by decreasing or discontinuing training may have seemed a necessary — almost sensible — way to save costs, but ultimately the costs of limiting training when things were bad may have created a current and future dilemma.

The industry training challenge may seem to be as simple as addressing getting new hires up to speed, but the reality is that depleted training departments, the lack of structured training plans and reduced budgets can be the real obstacles to successful training initiatives. Couple that with the likelihood that few people left in the organization understand how to launch new training initiatives or create a plan, and your efforts to get well-trained employees on your sites can be delayed by weeks and even months as you punt to reorganize your efforts.

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THE HIDDEN COSTS OF NOT TRAINING

When we refer to training in any organization, it is rarely limited to just new-hire training or new skill learning. More often, the word "training" is used when referencing professional development, organizational updates, communicating regulatory changes, succession planning, leadership development and essentially any changes in what or how we do something that needs to be communicated. We often see training as an organized conduit for information sharing. Sit in any meeting, in any industry, where someone sees a deficit of some kind or a need to communicate information, and you will hear some call to action that includes the word "training."

It makes sense that when we reduce our structure or capacity for training in any way, those benefits that are associated with training will suffer. An operations executive in a large electrical engineering company was getting his training initiatives back on track. He noted some regulatory updates that his company had resorted to sending out as email updates and through manager communications. The result was a number of electrical workers with inconsistent information that was required to execute the job. His desire to integrate needed updates in the professional growth plans for his current employees reflected an indirect cost due to reduced training and communication.

Other hidden costs include hiring experienced employees with the assumption that they know what they are doing, and if not, they will figure it out on the job. What's the problem anyway? We are only hiring a few key positions or just a limited number of workers anyway — can't they learn on the job? The answer is "Sure they can learn on the job… and they may even get the job done." Over time though, the look of your workforce resembles that of a group of entrepreneurs that are just doing it "their way." Best practices, efficiency strategies and just plain execution consistency can — and will — erode quickly in any size organization over time if there is no attention to training.

MANAGING AND SUSTAINING TRAINING DURING DIFFICULT TIMES

Whether it is a recession, planned growth or other transitional event, there will be times when cash is tight and budgets will need to be pared or adjusted. Rather than deleting the training line item from the budget, consider managing training through the difficult times using the following strategies:

Create and maintain a companywide yearly training plan: A comprehensive organizational training plan reflects the knowledge and skill gaps in the organization, and the subsequent training initiatives to address those by department or employee group. A good plan aligns directly with attaining company goals, and is used as a measurement for success. Because of this dynamic plan, informed decisions can be made on the areas to potentially reduce or cut and the effect on the organization those cuts or reductions could have. Having a training plan, even if your plan is to reduce training, maintains the integrity of an ongoing training program.

> **Whether it is a recession, planned growth or other transitional event, there will be times when cash is tight and budgets will need to be pared or adjusted.**

Link your training initiatives directly to your ROI: With a good training plan, there are ways to monitor and measure your training initiatives with ROI in mind. Training for certain behaviors on the jobsite can have a direct effect on the revenue realized on that job. Initial assessment and clear understanding of the "current state" is required and may take a little time to set up, but the return on your training dollars can be exponential.

Understand and invest in training needs required just to maintain: The all-or-nothing approach to training never works. Often training requests are declined merely because they have a dollar amount associated with them, without evaluation of the benefit to the organization. Even during times when budgets are limited, investing in some level of information transfer and professional development as part of an organized and planned training program will always be worth the money.

Do not fire the owners: Or more specifically, do not let go of your people on staff who have education and experience in creating and executing training initiatives. In most organizations, there are people that either have a background in training and development or are interested in it to the point where they will do self-study. Having a person in the organization who understands the value of training and can support putting together effective training plans — even if it is not his or her primary position — will help during the lean times. It is important that someone in the organization owns the need and desire for training.

The construction industry currently is experiencing an upswing. The future looks bright and there are dollars for new initiatives, for growth and for those areas that do not always clearly affect our bottom line. This might be time for a paradigm shift. What might be the value of integrating our training program into the framework of our organization instead of regarding it as an appendage? ■

Shirley Ramos *is a training consultant with FMI Corporation. She can be reached at 303.398.7213 or via email at sramos@fminet.com.*

Diversity Pays Dividends: Creating an Inclusive Culture

By Kelley Chisholm

#54

The United States will look much different in 2050 than it does today. Consider this: The population of the U.S. is anticipated to rise to 438 million by 2050, up from 296 million in 2005. Nearly one in five Americans (19%) will be an immigrant in 2050, and the Latino population will triple in size and account for 29% of the U.S. population in 2050 (compared to 14% in 2005.) The senior population (those 65 years old or older) will more than double in size from 2005 to 2050, and the working-age population (those 18 to 65 years old) will grow more slowly than that of the baby boomers, who will start to retire in droves.

So what do these statistics mean to the construction industry? For one thing, A/E/C firms are going to have to become more creative about embracing diversity, not only across generational and ethnic lines, but also among gender lines. Women and minorities must actively be recruited into the industry now in order to fill the gap left behind by the retiring white male workforce and to compete with other industries and professions for talented individuals.

DIVERSITY DEFINED

The American Society of Training and Development (ASTD) defines diversity as "a mosaic of people who bring a variety of backgrounds, styles, perspectives, values and beliefs as assets to the groups and organizations with which they interact." Simply put, diversity is about differences and mutual respect for those differences.

It is about a creating a culture where each individual can thrive and be productive.

Diversity is about values. It has to do with human rights, civil rights and an individual's deeply held beliefs. It is a balance between people's rights to their personal beliefs and an organization's rights to create a productive, diverse workplace. Diversity is about behaviors. Valuing diversity is much more productive than not valuing it and can have a direct impact on a company's bottom line. Diversity is a long-term process. It cannot be addressed by a single workshop or a few days of training. It must be an integral part of all other business efforts and be actively promoted by all top-level executives in the company.

WHAT MAKES YOU DIFFERENT?

Much of the research that addresses diversity incorporates the idea that there are primary and secondary dimensions of diversity as well as organizational dimensions. Marilyn Loden introduced primary and secondary dimensions of diversity in her seminal 1996 book "Implementing Diversity."

Primary dimensions of diversity include:

- Age
- Race
- Ethnicity
- Sexual orientation
- Physical qualities
- Gender

Primary dimensions are physically visible; they are things people can tell just by looking at us, with the exception of sexual orientation. We cannot change these aspects because we are born with them. These six differences are termed "core" dimensions of diversity because they exert an important impression on our early socialization and have a powerful, sustained impact on our experiences and values throughout every stage of life. When people feel stereotyped based on a primary dimension, they can be very sensitive about it — usually much more so than if it were a secondary dimension.

Secondary dimensions of diversity include, but are not limited to:

- Work experience
- Geographical location
- Marital status
- Military experience
- Religious beliefs
- Education
- Parental status
- Income
- Appearance
- Personal habits
- Recreational habits

Secondary dimensions are elements that we have some power to control and can change throughout our lives.

Much of the research that addresses diversity incorporates the idea that there are primary and secondary dimensions of diversity as well as organizational dimensions.

Because we acquire, discard and/or modify many of these secondary dimensions, their influence in our lives is less constant and more individualized than is true for the core dimensions. Nonetheless, these secondary dimensions add richness and complexity to our diverse identities and give meaning to our everyday lives. People are usually less sensitive about being stereotyped based upon secondary dimensions because these are things that they have some power to change. People also have the choice of whether or not to disclose any of this information; it can often be concealed.

Organizational dimensions include the aspects of cultural diversity found in the workplace itself and include, but are not limited to:

- Work location
- Seniority
- Union affiliation
- Management status
- Functional level/classification
- Work content/field
- Division/department/unit/group

Issues of preferential treatment and opportunities for training and development and/or promotion are affected by organizational dimensions.

These dimensions shape and affect both the individual and the organization. Primary dimensions receive the most attention in successful diversity initiatives, while secondary and organizational dimensions often determine the way people are treated in and out of the workplace. Companies must be aware of all of the dimensions in order to use employees' differences and similarities to create a culture of inclusion.

DIVERSITY VERSES DISCRIMINATION

Many people confuse diversity with discrimination. Diversity differs from discrimination and affirmative action in that it addresses an organization's culture and is not focused strictly on legal issues. While EEO and Affirmative Action laws have their role in the evolution of the diversity movement today, they are distinctly different from valuing diversity. EEO/Affirmative Action are laws initiated by the government and imposed on people. They are legally driven and usually reactive by nature. On the other hand, diversity initiatives are voluntary, opportunity-focused, company-driven and proactive.

Discrimination and diversity are both important, and leaders in construction companies should recognize and understand both.

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Discrimination from an employment perspective occurs when a person is treated unfavorably based on category, class or group rather than being treated fairly and equitably on the basis of merit. The basic federal law against job discrimination is Title VII of the Civil Rights Act of 1964. Under this law, it is illegal for an employer to discriminate on the basis of race, color, national origin, gender, age, religion or disability.

Harassment based on race, sex, religion, color, national origin or disability must be avoided at all costs. No one wants to work in an environment where employees feel demeaned and degraded. This is not only illegal, but also unproductive and can seriously affect morale. Education on harassment issues is extremely important not only because it may prevent future lawsuits, but also because all employees deserve to work in an environment free of harassment based on personal characteristics such as race or gender.

No one wants to work in an environment where employees feel demeaned and degraded. This is not only illegal, but also unproductive and can seriously affect morale.

EMBRACING AN INCLUSIVE CULTURE: BRINGING EVERYONE ON BOARD

In order for any diversity initiative to succeed, a number of things must happen.

- **Start with total buy-in from the top.** Leaders and executives must show complete commitment that they value and respect all members of the organization (as well as its clients, vendors and other stakeholders) through their actions and words.
- **Obtain buy-in from all levels.** Employees from all levels throughout the organization should be included in the very early stages of diversity planning. Planning groups and action teams should have representative participation of most primary, secondary and organizational dimensions where possible. Although 100% direct inclusion is seldom possible, representative inclusion is almost always possible with some creative thinking.
- **Link diversity to the organization's strategic goals.** Diversity plans that are tied directly to a company's strategic business plans have a much better chance of succeeding than those that are not.
- **Encourage continuous learning.** While training is not the only factor in creating a successful diversity program, it is an important part of the process. Programs must be carefully planned and relevant to the organization, as many of the topics that arise during diversity training can be extremely sensitive to some employees. Experienced facilitators should be used whenever possible.
- **Make diversity part of individual performance appraisals.** Communicating performance expectations regarding diversity helps to build accountability into the process and also shows organizational commitment.

- **Recognize that diversity is not only about differences, but also about flexibility.** Employees who are offered flexible benefits, flexible scheduling and an equitable balance between their work and personal lives are more likely to have higher morale and greater productivity, and stay with the company longer.

Effective communication is the key to it all. Management must formally communicate all diversity plans and activities if the effort is to achieve its intended goal of creating an inclusive and diverse culture. Timely and accurate information reported to all employees not only helps with buy-in into the entire process, but also helps to reduce any rumor mills that the lack of communication or misinformation can bring about.

BENEFITS OF IMPLEMENTING A DIVERSITY PLAN

Some of the benefits of instituting a diversity plan include the following:

- **Keeping and/or gaining market share.** Building positive relationships with both employees and customers enhances marketing efforts and creates a positive, constructive public image with a record of support on diversity issues.
- **Employee recruiting.** When employees feel their work environment is diverse and inclusive, they become ambassadors for the company, bringing members of their community into the organization. When someone actively recruits a new employee, he or she often assumes responsibility for that person's success in the company, building an informal mentoring matrix in the process.
- **Employee retention.** Employees who feel that their work environment is not welcoming are eventually going to leave, or, even worse, they will stay, become unproductive and lower the morale of other employees. Recruitment and training of new employees is expensive, and constant turnover is costly to a company's bottom line. By valuing diversity and creating a welcoming work environment, employees will want to stay.
- **Increased productivity and profitability.** Higher levels of productivity can be encouraged through individually based motivators and effective group behavior practices that promote collaboration and the sharing of ideas. Diversity helps to foster teamwork, which in turn increases productivity and profits. Differences in perspectives can often lead to team success.

Management must formally communicate all diversity plans and activities if the effort is to achieve its intended goal of creating an inclusive and diverse culture.

- **Reduced legal costs.** Six- and seven-figure damage awards are becoming more common when employers do not comply with employment laws. It simply does not make good business sense not to be aware of these laws and to ensure that the workplace is discrimination- and harassment-free.
- **Improved customer service.** Communicating with customers to provide exceptional service is often a challenge, as is working with a diverse range of customers. Improving an organization's cultural climate can build awareness, communication and other skills to serve all customers better and help to eliminate challenges and barriers related to diversity. The payoffs include keeping customers loyal and strengthening profits and good will.

CONCLUSION

A company that values diversity reflects today's changing world and marketplace. Diverse work teams bring high value to organizations. Respecting individual differences will benefit the workplace by creating a competitive edge and increasing work productivity. An organization that values diversity creates a fair, safe and legal environment where everyone has access to opportunities and challenges. ■

Kelley Chisholm *is editor of FMI Quarterly. She can be reached at 919.785.9215 or via email at kchisholm@fminet.com.*

Today's Prefab: Just the Tip of the Iceberg

#55

By Ethan Cowles

Nothing is more exciting for contractors than to reach the next level profitability or to reduce their costs so they become more competitive. For this reason, when something comes along that promises to increase construction productivity dramatically and change the way buildings are constructed, savvy contractors should pay attention!

One of the trends in the industry having major impact on productivity is the use of prefabricated assemblies. Potential benefits of prefabrication include the positive impact on margins as well as establishing sustainable competitive advantages for companies.

WHY PREFAB?

The specific meaning of "prefabrication" can vary according to industry sector or region, but for this article, "prefabrication" includes preassembly, off-site fabrication and modularization. Prefabricated assemblies can use the same materials as on-site production and be engineered to achieve the same, if not better, structural integrity than typical on-site assemblies.

Repetitive building processes conducted at a central location offer many operational advantages compared to site-specific construction activities:

Weather. Schedule delays resulting from inclement weather can be eliminated. Construction materials and workers are sheltered from excessive cold, heat and moisture during the entire production.

Materials. Materials can be stockpiled and staged, making them available in specific locations as needed and so they do not interfere with concurrent construction activities. Materials can be inventoried easily to ensure no delays result from missing parts or pieces. Suppliers can deliver materials on a prescribed schedule using on-site loading docks and materials handling equipment as necessary. Additionally, material waste is reduced.

Equipment. Power and water services, tools, overhead hoists and dust collection systems can be installed on a permanent basis. Setting up similar capabilities on individual construction sites usually is cost-prohibitive (see Exhibit 1.) Heavy equipment, such as forklifts, is made easily available without the need to transport it frequently from one project to another. The permanent location also allows the use of automated equipment to a larger extent than do most jobsites.

Layout. Assembly areas may be complemented with on-site welding shops, painting booths and cabinet shops, thereby reducing the need for subcontractors or separate laydown yards on the jobsite.

Supervision. By not having to travel from jobsite to jobsite, foremen and superintendents can maximize their input and supervision over all aspects of the construction process. The progress and productivity of individual employees can be measured in real time, and help or guidance is continually available. Safety aspects of the production process can be managed and controlled closely, and hazards can be evaluated and minimized with little effort. The factory environment also minimizes the amount of time workers are exposed to traffic, height and water hazards.

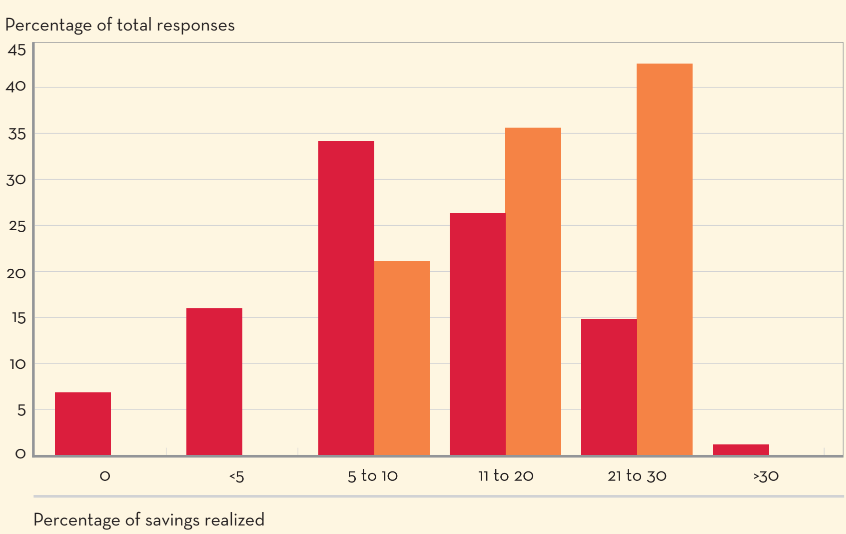
Location. The location of the prefabrication site can be chosen carefully to maximize several advantages. It is possible that construction processes can go on 24 hours a day, away from residential areas or office buildings. A site in close proximity to railways, shipping ports, highways and airports adds flexibility and

Exhibit 1

Savings Realized

Compared to field fabrications, what savings have you realized on equipment compared to fabricating assemblies in the field?

All responses
Saved more than 16% labor last year



Source: FMI's 2010 Contractor Prefabrication Survey ease to shipping and receiving efforts. The cost and availability of power and water can also be planned for in advance.

Location can also minimize labor expenses. Choosing a location where the cost of living is low and the availability of labor is high only adds to the economic efficiencies offered by the prefabrication processes.

Tracking Completed Work. Percentage complete, cost to complete and finished work can be accurately tracked and inventoried. These measurements give accountants and project managers greater ability to organize and plan work activities to stay on schedule and under budget. Timely billings for completed work and/or work delivered can decrease the amount of time capital remains in the conversion cycle. A more accurate and timely billing and payment process helps cash management.

The repetitive nature of prefabrication activities maximizes planning, engineering and design expenditures.

Engineering/Design. The repetitive nature of prefabrication activities maximizes planning, engineering and design expenditures. A particular "product" can be designed once and repeatedly built, reducing the engineering and setup costs per unit. Time and energy could then be invested in creating products that achieve LEED ratings, offer predictable useful life or durability requirements, reduce life-cycle costs or meet prescribed seismic or sheer requirements.

Labor Productivity. The way prefabrication construction is conducted offers many advantages to achieving and maintaining high levels of labor productivity (see the two graphs in Exhibit 2). The consistent location and repetitive nature of the work allows the labor activity to become analogous to factory or assembly line work.

Installing complex systems such as plumbing, electrical or HVAC can be simplified and sped up in a factory environment. No longer are highly skilled and experienced tradesmen needed to understand the entire system and install each component. Installation activities can be broken down into smaller activities that are completed by many different people. For example, all alterations to framing materials could be carried out at one time, by one person, before assembly. After framing assembly, pipe, conduit, wire and ductwork can quickly be installed into wall panels or building sections, by a team of specialized workers in each system. Connections, trim work and fixtures then can be installed by another set of specialized workers. Using the assembly line technique not only improves consistency, but also decreases the time and skill of individual workers needed to complete the work.

WHAT IS NEEDED FOR SUCCESSFUL PREFABRICATION EFFORTS?

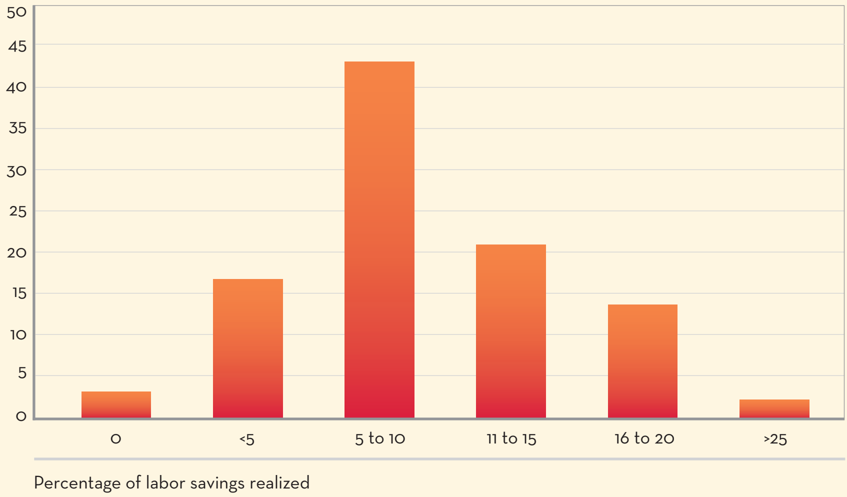
Some contractors follow the crowd by chasing these benefits and blindly investing in their prefabrication capabilities without doing basic due diligence. Any significant prefabrication operation can fundamentally change the structure

Exhibit 2

Labor Savings

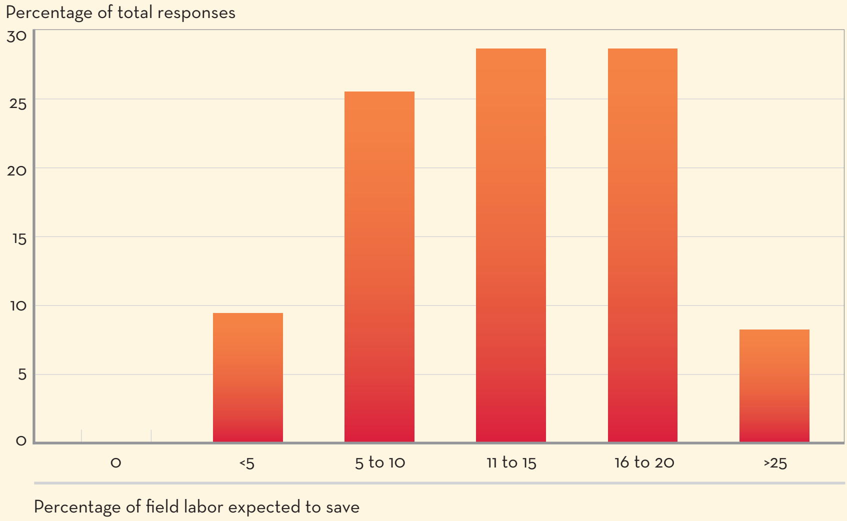
As an estimate, how much labor did your company save last year that is attributable to your prefabrication efforts?

Percentage of total responses



What is the portion of annual field labor that you expect to save through prefabrication?

Percentage of total responses



Source: FMI's 2010 Contractor Prefabrication Survey

of a company and will change how it needs to be managed. Not realizing this beforehand is like playing with gasoline and matches — bad things can happen. At a minimum, companies should be able to answer the following questions:

What is the company trying to accomplish?

This is the first question that needs to be addressed because it will determine the scope, speed and objectives of the prefabrication efforts. An answer to this question might be to achieve a 20% increase in labor productivity by 2020. As the example illustrates, the objective should state a measurable outcome and a defined time frame.

Specific measurable outcomes eliminate any ambiguity as to what success means and whether or not the objective is being met. A measurable goal also gives a company the ability to gauge its progress over time.

Setting a particular timeline for a company to achieve a goal is extremely important and has many ramifications. The absence of a schedule can often derail an initiative entirely, due to a lack of attention and priority. Setting a time frame enables the company to define short- and long-term financial and operational goals, while properly dedicating resources to accomplish them. Successes can be celebrated, and shortcomings can be addressed before they become major problems.

Why is the company making this investment?

At first look, the answer to this question may seem obvious, but a company needs to ensure it can be answered. The "why" needs to be more than just "to become more efficient." Is the main objective to increase profits, to be more efficient so the company can price projects more competitively, to decrease the needed on-site time for projects, to establish an additional source of revenue for the company, etc.? Answering this will help put the overall prefabrication initiative into a larger context and help management analyze alternatives. There may be cheaper, faster ways to accomplish the overall goal without making substantial investments of time, energy and money into prefabrication initiatives.

Where will the prefabrication facilities be located?

Many prefab operations get their start in the corner of existing company facilities, as seen in Exhibit 3. However, there are many instances where prefabrication operations quickly outgrow their initial facilities and drive a hasty need to expand (see Exhibit 4). From the beginning, make plans for facilities that can grow with the operations. This will minimize the need to buy property, equipment and facilities more than once and maximize the return on every dollar.

The planned location of the prefabrication facility is fundamental to the overall decision whether to invest or not. Prefabricated assemblies will need to be delivered to the field, so the costs and time associated with making deliveries need to be evaluated. If projects are spread out over long distances from the prefabrication facility, it may be more economical to purchase prefabricated assemblies from other companies closer to the project locations or to field fabricate. Just because a company has prefabrication capabilities that are more efficient than field fabrication does not mean the savings are maintained by the time assemblies are delivered to the jobsite.

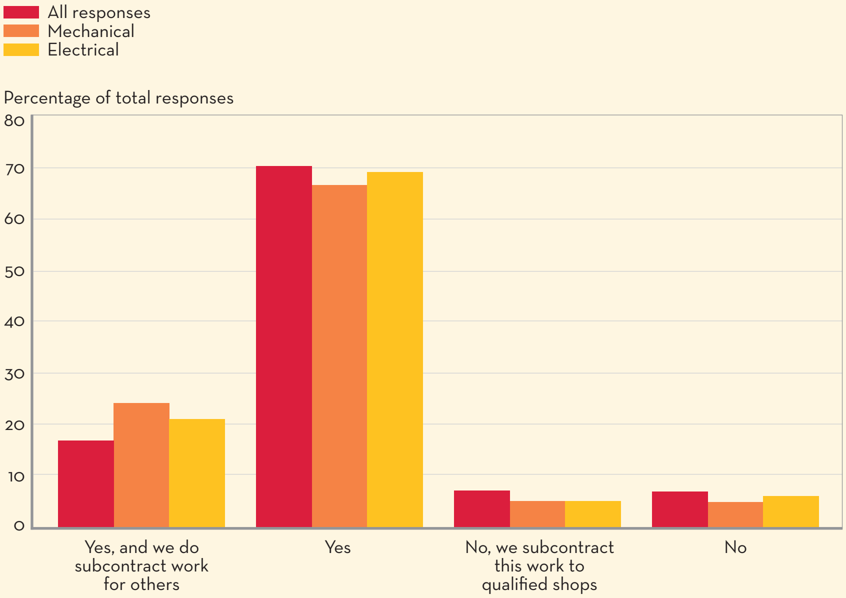
Who will perform the prefabrication labor and who will manage the field operations?

There are two schools of thought around the first part of this question. First, many companies find that the repetitive nature of prefabrication can be carried out by lower-skilled, manufacturing-type labor, resulting in lower hourly wages and a larger labor pool. Other companies have found that their prefabrication efforts are maximized and rework is minimized by having experienced tradespeople performing prefabrication labor, while still benefiting from the productivity increases from the prefab facility (see Exhibit 5).

Exhibit 3

Prefab Facilities

Do you own your prefabrication facilities?

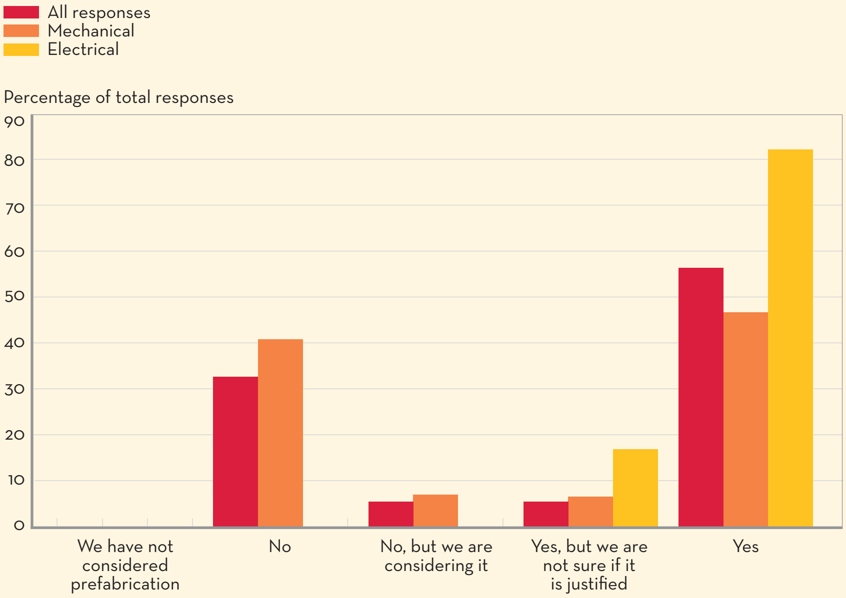


Source: FMI's 2010 Contractor Prefabrication Survey

Exhibit 4

Future Prefab Facilities

If you do not own your prefabrication facilites, do you plan to add this capacity in the near future?

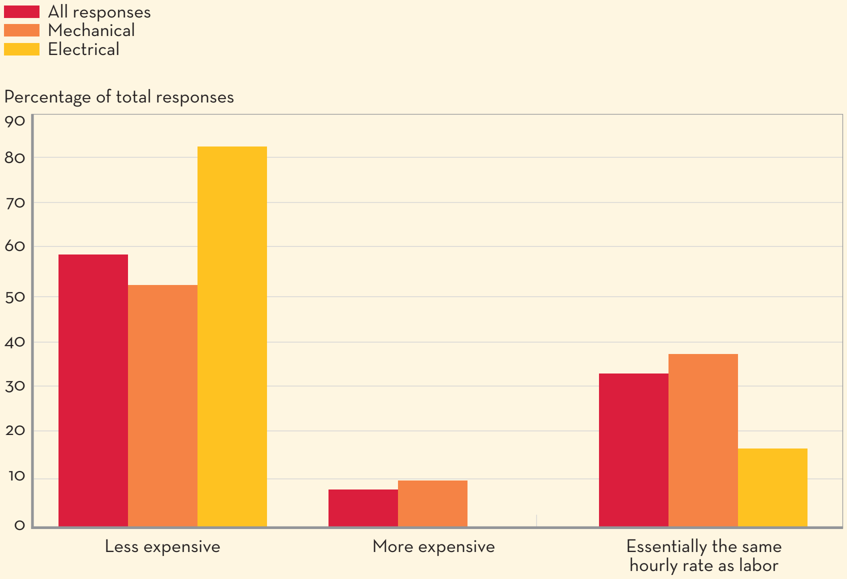


Source: FMI's 2010 Contractor Prefabrication Survey

Exhibit 5

Prefab vs. Field Labor Hourly Rates

Compared with your field labor hourly rate, prefabrication labor is:



Source: FMI's 2010 Contractor Prefabrication Survey

Both options work, but it is important to know what the initial intentions are. Using lower-skilled workers will require intense, upfront training and dedicated management oversight. Using experienced tradesmen, on the other hand, may take a company's high performers out of the field, negatively affecting traditional operations. Decide early.

The skills needed to manage a prefabrication operation are fundamentally different than those needed to run field projects. Effectively managing prefabrication (analogous to manufacturing) requires experience in facility efficiency calculations, inventory management, push/pull analysis, capacity and priority planning, etc. Most organizations either hire an outside manager with manufacturing experience or find it necessary to train an internal candidate. Both may take some time to accomplish.

How will the company roll out its prefabrication initiative?

It is important that management anticipates that any successful change initiative will take effort, planning and time. Prefabrication is no exception.

Developing a phased schedule to build facilities, install prefabrication equipment and train labor is the easy part. Developing the systems, process and attitudes needed to support the prefabrication efforts is trickier.

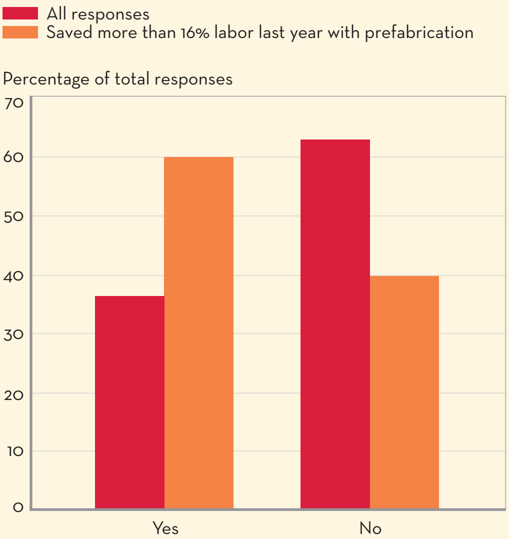
Prefabrication affects project budgets. Project and field managers will want to know exactly how and why their budgets are going to be changed, and making them comfortable with this early is a best practice. Establishing an incentive program for managers to use prefabricated assemblies on projects often helps prefabrication efforts get off to a quick start (See Exhibit 6).

Companies should proactively introduce prefabrication efforts to their existing field personnel. Often, craftspeople perceive prefabrication as competition (i.e., prefab = jobs lost in the field). Managers should explain what the objectives of the prefabrication efforts are, why they are important for the company, and what they see as future opportunities for field craftspeople within the company. Typically, companies do not lay off field personnel due to their prefabrication operations. In fact, in most cases, prefabrication operations increase overall employment due to the additional capabilities and the more competitive cost structure.

Exhibit 6

Prefab Incentives

Are field managers incentivized to find and use assemblies that can be prefabricated?



Source: FMI's 2010 Contractor Prefabrication Survey

THE FUTURE

Prefabrication is a trend in the construction industry that will change how we design and build projects, how fast we build them, and where they (assemblies) will be built. As with any change in technology, the use of prefabrication has many opportunities as well as potential threats. To be successful in the future, companies must be prepared to make educated investments in emerging methodologies such as prefabrication, strategically operate their businesses and relentlessly strive for continuous improvement. After all — what is being prefabricated today is just the tip of the iceberg. ■

Ethan Cowles *is a senior consultant with FMI Corporation. He can be reached at 303.398.7276 or via email at ecowles@fminet.com.*

Building Innovation

By Jim Schug

#56

Many construction companies operate profitably and successfully as smaller firms. These tight-knit organizations can be held together by strong leadership. They can continue to succeed as long as the top-level leader can touch the day-to-day operations directly. In many ways, there is nowhere to hide lack of competence. Many departments are single points of accountability. If anything was to go wrong, the team would be let down and accountability decided by quick process of elimination. At an individual level, the effect of day-to-day decisions can be seen quickly across the company. The information web or feedback loop between decisions and results is tightly woven and quick to confirm results.

Companies with small, "close-in" operations more readily identify impacts arising from inefficiencies. As companies grow and their operational footprint expands, this tight-knit feedback loop shifts. It evolves past a point of equilibrium. New members join the team and direct operational control is more difficult. Often we push the limits of our operating abilities, which results in managers being less aware of their influence on the company's ecosystem and how their day-to-day decisions affect other functional areas. Leaders effectively manage this growth by making it a priority to ensure managers are aware of the tie-in and continually

Clients must never perceive they are being "sold something." A good salesperson helps them buy.

reinforcing the effects the team has across the company. Best practices, metrics and meetings replace the intuitive feel and rapid feedback on performance that once existed.

Many companies struggling with the markets and enduring this transition look toward innovation as a potential solution. Unfortunately, innovation is not a strategy. It is not an operating system. It is a culture that acts as a catalyst for both operations and strategy.

Innovation can be described best as feedback loops across company tactics (means and methods), operations and strategy. Metrics often identify the status of each of these and help communicate and track progress. In other words, attempts to improve field productivity may involve tactical and operational loops. At a crew level, we will want to measure productivity (the amount of ductwork installed per man-hour). This metric, shared across the team, allows it to continue looping back and attempting new means and methods until it sees improvement or reaches its goal.

At an operational level, field productivity can be improved with new software to track work complete, a prefabrication technique or having a full-time project manager assigned to the job and on-site. The metrics help measure progress and rapidly provide feedback for continued adjustments. They also serve to communicate across these loops. A higher production rate of trenching may allow us to take on different work or compete in hard-bid DOT markets. This example of tactical innovation giving a strategic advantage sounds simple, but the true value lies in the speed of action. Rather than shifting strategy rapidly, most companies would wait until the end of the year to recognize the tactical improvement. Or worse, jump into a new market without confirming their ability to perform at that level. Most of us use these tools intuitively, but often do not share the right information, take advantage of the "quick turnaround" information (tight loops) or engage those involved to generate new ideas.

Leaders should strive to build companies with a shared sense of innovation rather than just one innovative leader.

Leaders should strive to build companies with a shared sense of innovation rather than just one innovative leader. Bottom-up innovation for construction companies is definitely most effective. We can look at Apple and Google as the most prominent examples. To date, there are many questions about Apple's ability to innovate as well as they did with Steve Jobs at the helm. On the other side of this spectrum is the culture of innovation that Google created. The sudden departure of any one leader would be a loss, but would do little to slow the pace of innovation at Google.

Creating a culture of innovation yields great benefits. Like most initiatives, it takes great effort to get great results. Some innovation can happen by bringing together a variety of skills and disciplines to solve a common problem. A longer-term method includes adjusting hiring practices to create teams with diversity in background and skill sets. These fresh perspectives help to identify creative solutions to long-standing problems.

Some ideas currently in use around the industry to satisfy the need for innovation include the A3 problem-solving method, OODA (Observe, Orient, Decide, Act) and post-job reviews.

PROBLEM SOLVING USING A3

At an operational level, some companies use an A3 best practice (as borrowed from the TOYOTA and LEAN disciplines). The title of this process comes from the size of an A3 sheet of paper. The goal is to keep the analysis simple and on one page. In some cases, it may require a sheet as large as 11" x 17". Keeping the analysis and recommendations simple makes it easier to share the idea around the company. As operators and middle management recognize problems or run into an obstacle, the A3 method gets them directly involved using a well-defined report format. While these vary from company to company, the questions asked often are designed to develop problem-solving skills across the company:

- What is the purpose or concern of the challenge?
- Discuss the background or information needed to understand the situation.
- Clearly sketch the current situation and cloud the area of concern. Use a flow chart if a physical sketch does not apply
- List answers to the "5 Whys" to identify the root cause of the problem.
- Diagram or draw the new or proposed process.
- What is the action plan to implement the change? Who is responsible and by when will these actions be completed?
- How will we measure the impact and improvement?

OBSERVE, ORIENT, DECIDE, ACT (OODA)

Another common practice used initially by the military used the OODA Loop, which was developed by military strategist and U.S. Air Force Col. John Boyd. By observing the

THE "5 WHYS"

The "5 Whys" is a simple problem-solving technique to help get to the root of a problem fast. It was made popular in the 1970s by the Toyota Production System. To identify the root cause of the problem, ask, "Why did we have a delay on the project?" An answer may be labor cost overruns. Then ask, "Why did we have labor cost overruns?" An answer may be due to higher amounts of overtime. Ask, "Why did we have higher overtime hours on this job?" and continue this process to arrive at a root cause of the problem.

situation, orienting properly to the challenges and opportunities in that situation, deciding on the best course of action and acting, this process attempts to drive rapid decisions and continual adjustments. This cycle creates a process of continual improvement and correctly done, brings fresh ideas. One of the innovative elements of this process is the orientation step. Great ideas come from various perspectives. Each company can tailor the orientation steps to help inform a new perspective where "that's how we've always done it" is the norm.

Examples of questions used during workshops to help give companies new perspectives in solving common problems include:

- What is the company SOP?
- What information is available to make this decision (online)?
- How do other companies execute this task?
- What ideas do our vendors have to substitute materials?
- What thoughts do our equipment contractors have to substitute unique rental equipment to perform this task?
- What is the goal of the customer?
- Have we consulted a (different) design engineer?

These questions can help stir some views on the problem different from "the only way to do it" and create new perspectives from which to make a decision and act on creative solutions.

POST-JOB REVIEWS

Post-job reviews are the best opportunity for companies to talk through project approaches, think through new methods and conduct training and mentoring across the project team. Unfortunately, not every company that performs post-job reviews for good jobs and bad uses them as an opportunity to innovate, which can be a brainstorming session for new ideas, means and methods, and materials. Seldom is there a better time or opportunity to motivate change than after a successful or challenging project. The project team is present and typically willing to take on initiatives for the benefit of improved efficiency. This should take form at the end of the project-specific discussion. Led properly, the meeting facilitator can key in on some details and comments and tap into those passionate about the topic for help to improve things.

Seldom is there a better time or opportunity to motivate change than after a successful or challenging project. The project team is present and typically willing to take on initiatives for the benefit of improved efficiency.

In much the same approach, division and company leaders should conduct a post-job quarterly review. Many companies conduct a quarterly strategic review meeting with the company leadership team. Incorporating innovation is a natural progression. Often during these meetings, some companies bring "outside" information in. Some companies have a policy that any of the leadership team who attended external training or association events must return and conduct a five- to 10-minute debriefing during the quarterly meeting. Other companies will bring outside experts in to demonstrate a new tool, technology or time-saver. Stirring the pot of ideas, pushing the creativity of the leadership team, and appointing pilot projects or action officers to test new ideas often creates a culture of continual improvement.

Stirring the pot of ideas, pushing the creativity of the leadership team and appointing pilot projects or action officers to test new ideas often creates a culture of continual improvement.

MAKING GREAT MUSIC

A room of superintendents from some top-performing contractors was asked what they thought about change and how they should manage the "set-in-their-ways," 35-year veterans in the workforce who do not even want to use a laptop.

The group was shocked at this question and responded fiercely, "Change is here. The old-school mentality does not work. If you are not willing to change, you cannot play the game anymore!" Field leaders expect change as they recognize they must continue to innovate to remain competitive. It is their job to build a culture of innovation.

Many architects will attest that some of the finer architectural schools teach a structure for creativity. For most of us used to a more concrete way of thinking, a structure for becoming creative appears to be a contradiction. In the same light, it makes sense for company leaders to understand how to create some disharmony and challenge the status quo. Uprooting the company completely may lead to mayhem, but, like a jazz quartet, any individual instrument played solo may sound off-key. However, when combined together, some of the best music ever created results. The disharmony when blended together creates a greater good. Most jazz musicians

It makes sense for company leaders to understand how to create some disharmony and challenge the status quo.

will attest that some of their best ideas came about by "messin' around." With the right controls in place, it makes good sense to "mess around" with many small initiatives and question the way we have been doing business. Organizationally, we must efficiently harvest this conflict and lead the company to a new level. Done correctly, innovation will become cultural and bring great benefits to transforming the company. ■

Jim Schug *is a senior consultant with FMI Corporation. He can be reached at 813.636.1254 or via email at jschug@fminet.com*

Converting Risk Into Financial Reward

By Angela Skow and Deron Cowan

#57

Today's construction industry is a dynamic and global business, with opportunities for innovation and thought leadership taking place throughout the world. For years, the industry's risk management philosophy has been to react to risk rather than to be proactive and embrace it.

Reacting to risks means to identify and place controls in an effort to minimize the severity when an incident occurs. Companies defined successful risk management as perfecting safety, health and environmental programs; transferring risk by contractual language; and procuring insurance. These strategies provided limited success based solely on reducing frequency or severity of loss.

A more comprehensive enterprise risk management program focuses on reducing loss cost as well as improving productivity and profitability. This means identifying the risk, measuring the potential occurrence and severity, evaluating your risk tolerance and either accepting or changing the scope of the risk. This type of strategy relies on commitment to a well-established corporate culture and a strong philosophy of continuous improvement targeted at operational excellence. When a company has successfully embraced these philosophies, the true power of turning risk into reward is increased.

While there are many aspects to a strategic risk management philosophy, this article focuses on three emerging issues: people, globalization and business partnerships through joint ventures.

PEOPLE

People are the No. 1 risk associated with construction; they are responsible for the ideas, actions and eventual outcomes on every construction project. Success or failure is dependent on people's ability to evaluate and make correct decisions. This applies across all levels of the organization.

Risks related to people include items such as knowledge and skills, availability, recruiting, health and welfare as well as retention. As an example, in the next three to five years, we expect a shortage of more than 2 million skilled workers in the U.S. domestic construction market alone. Our industry needs recruiting and training techniques that will enable business to grow while at the same time retaining the experiential knowledge from the existing workforce.

The industry has made minimal strides to attract young talent, but organizations such as the ACE Mentor program and the AGC Mentor/Protégé program are steps in the right direction. Training programs, technical schools and university degrees tailored to the construction industry have also expanded, but participation is still lagging. If your organization is not actively involved in recruiting and development in your local communities, you need to take the initiative to get involved and actively inspire and train potential candidates.

Regardless of the innovation and technical advances the industry achieves, people are still our primary asset, and we must continue to protect, train and advance their knowledge and skill levels. The risks associated with an untrained, unqualified workforce are significant, ranging from loss of life, injured employees, projects losses and reputational and financial loss to you and your stakeholders.

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GLOBALIZATION

Rapid market globalization has created new opportunities and challenges in virtually every industry in recent decades, and the global expansion of the construction market has been particularly pronounced. As domestic contractors go abroad and increased numbers of foreign contractors come to North America, the challenges of culture and communication increase exponentially.

Successful best practices established in the U.S. will often be challenged when deployed abroad. You must be prepared for differences in political climate, regulations, customs, currency fluctuations, and environmental and geographical issues that will increase the risks to your project and your people.

Foreign companies entering the U.S. market can experience even more challenges due to the increased litigious and regulatory environments of federal and state entities that do not exist in many foreign countries. Many companies are partnering with in-country organizations as a means to help mitigate these risks.

JOINT VENTURES

Although not new to construction, joint ventures (JVs) have been increasing between foreign and domestic construction companies. The risks being magnified by entry into foreign countries precipitate the opportunity to share both financial and operational risk and potential rewards. One partner typically brings either financial or technical resources while the other partner usually contributes cultural, communication and political insight to the JV.

When assessing the potential risks and rewards of a JV, whether domestic or foreign, you should consider the following:

- Does this bring value to my organization?
- Is this JV necessary or simply desired?
- Can we broaden our opportunities and create additional market demand for our product by taking on this JV?
- Will this be mutually profitable for the shareholders?
- Does this provide an edge to our business platform for dynamic growth and strategic alliances?
- Will our reputational risk be enhanced or potentially suffer because of the JV?

The JV must provide the best opportunity to capitalize on the risk and reward for any project. Several risks must be considered and addressed before entering into the JV agreement.

Consider the arrangement and financial impact. Many projects range in the billions of dollars and extend over several years, which can have a considerable impact on your financial status. Your JV agreement must be clearly understood by both parties and thoroughly documented by contract.

Choose partners that align with your corporate culture. This is a long-term commitment, and cultural clashes in beliefs and practices can increase both financial and reputational risk.

Assess whether your partner is capable of meeting the project needs. Often, if losses take place and quality suffers, a project will not come in on schedule or within budget. It is important to have a full understanding and contract language for who is responsible for each aspect of the risks associated with the project.

Many projects range in the billions of dollars and extend over several years, which can have a considerable impact to your financial status.

Consider the long-tail nature of construction risk. Your exposure does not end when the project is complete; it extends into the future based on the laws and regulations of the governing body where the project exists. Construction defect claims can sit on your balance sheet for years and dip into profits on projects considered complete. Detailed commissioning, warranties and service plans are keys to managing these risks.

Evaluate the complexity of new requirements to construction mean and methods. Market dynamics continue to evolve with issues related to LEED, LEAN, project delivery methods and innovative products and materials. JV partners must be nimble, knowledgeable and proactive with risk management approaches that can deliver required risk solutions as needs change.

CONCLUSION

While there are numerous other considerations that need to be vetted in the risk management arena, this article focused on the three emerging issues of people, globalization and joint ventures. Part of the business of construction is converting risk into financial reward; failure to manage the entire risk process adequately can equal financial ruin. All companies desiring to be successful should consider a more comprehensive enterprise risk management program that focuses on reducing loss cost while improving productivity and profitability. ■

Angela Skow *is vice president of Controlled Insurance Programs for Zurich in North America's Construction Segment. She can be reached at angela.skow@zurichna.com.* ***Deron Cowan*** *is Global Construction Technical Center lead for Zurich Services Corporation. He can be reached at deron.cowan@zurichna.com.*

Why Contractors Fail: A Causal Analysis of Large Contractor Bankruptcies

By Hugh Rice

#58

Too big to fail. This phrase has been used to describe large banks whose failure would cause a chain reaction among other banks and financial institutions in their network. The theory is that it is in the best interests of the national economy for the Federal Reserve to provide liquidity to assure that these banks don't fail. Some analysts have said that GM falls into the too-big-to-fail category. However, most in the United States agree that government bailouts should be rarely, if ever, applied in a free market system.

So can a corporation be too big to fail? Recent history has shown that construction firms are not too big to fail, even though they may have annual revenues ranging from hundreds of millions to several billions of dollars. During the past few decades, there have been dozens of large contractors that, after many years of growth and apparent prosperity, experienced notable financial disasters, resulting in bankruptcy or a reincarnation of the business in a much different form. The following is a partial listing of recent casualties:

- The Austin Company
- Dillingham Construction
- Encompass Services Group
- Fishbach & Moore
- Guy F. Atkinson
- IT Group
- J.A. Jones
- JWP Group
- Modern Continental
- Morrison Knudsen
- Morse Diesel
- Railworks Corporation
- Raymond International
- Stone & Webster

There are bonding safeguards to protect project owners and others when a contractor fails; however, there are no such safeguards for the contractors themselves. Such an event affects not only the employees and shareholders of the firm but also the industry as a whole.

WHAT CAUSES LARGE AND HISTORICALLY SUCCESSFUL CONTRACTORS TO SELF-DESTRUCT?

The industry has regularly witnessed smart leaders making what appear to be the same fatal mistakes others have made before them. While lists of the major reasons for contractor failure have been circulated in the past, many industry leaders said something was missing in those lists. FMI Corporation (FMI), spurred on by particular interest from the Construction Industry Round Table (CIRT), chose to search for a deeper understanding of why seemingly successful contractors, many of whom had been in business for several decades, experienced financial distress.

Our mission was to provide a richer understanding of large contractor failure by identifying the root causes behind the "surface level" causes that are so frequently blamed (e.g., venturing into new geographic markets, choosing to offer types of construction in which the firm has no experience, taking on excessively large projects etc.). It is our hope and expectation that this effort will improve the endurance and longevity of the high-quality contractors serving the needs of our society.

> **The industry has regularly witnessed smart leaders making what appear to be the same fatal mistakes others have made before them.**

RESEARCH SCOPE

When contractors fail, a rather standard set of reasons is given for the failure. Our review of trade publications and other printed materials on the subject of contractor failure provided an initial list of the most often cited causes for why large contractors fail. (Some causes frequently cited in other lists are more relevant to smaller contractors.) To help understand the general sources of each "cause," we grouped the items in the list into three major categories: strategic, organizational and uncontrollable.

MOST OFTEN CITED CAUSES OF CONTRACTOR FAILURE

Strategic

- Unrealistic growth/overexpansion/unfamiliar new markets and/or entry into new types of construction
- Volume obsession
- Unrealistic promises/bad contracts/poor project selection

Organizational

- Insufficient capital, profits
- Lack of business knowledge, poor financial management, poor sales skills, inadequate marketing
- Poor leadership, poor leadership transfer
- Project losses, poor field performance
- Owner court battles, owner bankruptcy

Uncontrollable

- Industry/economic weakness
- Banking and surety changes

While helpful, the list provides insufficient clarity regarding the causal roots of failure. A review of the list, in addition to our industry experience, told us that in order for firms to have stronger preventive guidance, we needed to identify the causes behind the causes. Why do contractors grow unrealistically? Why are they obsessed with volume? Why do they have insufficient capital? Why do they go from good performance to poor? With that goal in mind, FMI's Research Services Group consulted a wide variety of sources, including:

- Written case studies of more than 80 large contractors that suffered a major financial crisis, many of which resulted in bankruptcy
- In-depth book studies of the issues that generally led successful companies into tenuous situations
- Leading management consultant reports, such as the McKinsey Quarterly
- Academic articles focusing on company failures in the construction industry
- Cross-industry comparative analysis of financial data
- Cross-industry analysis of Myers-Briggs profiles
- U.S. Census data on failures in the construction industry
- Surety-based historical data on past failures
- Reviews of financially based predictive models for failure
- A nationwide survey of senior executives and middle managers from contracting companies with annual revenues of more than $250 million
- In-depth case studies of more than 25 failed contractors, representing a wide range of industry segments
- In-depth personal interviews with 35 top executives of contracting companies and surety firms

A MODEL OF THE PATHS TO FINANCIAL CRISIS

Overall, our research isolated about 200 potential factors that can lead to contractor failure. In digging behind these factors, we realized that no single factor would usually signal the impending doom of a construction firm. More than one issue is most always involved. We found that failing companies usually exhibited a combination of factors that interacted, causing company performance to spiral toward inevitable bankruptcy. Construction is a dynamic and risky business, and, as such, it appears that the causes of contractor failure are similarly dynamic and involve a number of difficult-to-manage risk factors.

Construction is a dynamic and risky business, and, as such, it appears that the causes of contractor failure are similarly dynamic and involve a number of difficult-to-manage risk factors.

Failure Chain Reaction Model

To illustrate the causes of contractor failure and how they relate to one another, we created a preliminary model called the Failure Chain Reaction Model. This model categorizes the causes of contractor failure into four major groups, ranging from macro to micro conditions. "General Economic Conditions" and the "Nature of the Construction Industry" represent the macro conditions in the model. The micro conditions are represented by the "Culture and Systems of the Organization" and the "Mind of the Contractor." (See Exhibit 1).

"Company Performance" results from the combination of these four categories. Ultimately, poor company performance leads to a "Loss of Financial Capacity," which is the final step toward a downward spiral we call the "Bankruptcy Doom Loop."

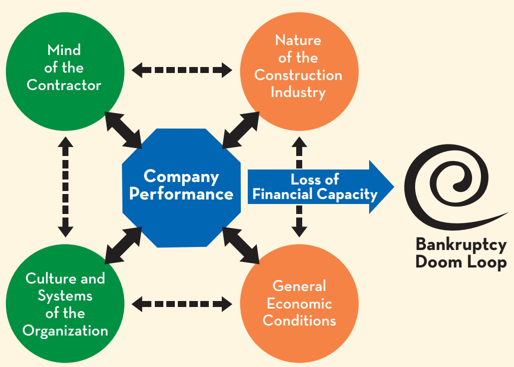
Each component of the model is explained further in the following sections.

General Economic Conditions

Specific economic forces affect contractors through many paths, including bonding issues, demographics, government policy, tax law, consumer confidence and even material shortages. (See Exhibit 2).

The items in Exhibit 2 are often blamed, in whole or in part, as causes for contractor failure. For example, contractors may blame their financial disaster on a lack of available work, due to a suppression of construction plans that is caused by an increase in interest rates. However, we question the validity of blaming external economic conditions as the primary cause of a firm's financial collapse. The fact that not all contractors fail during difficult economic times indicates that there are other causes that are more relevant.

Exhibit 1
Failure Chain Reaction Model

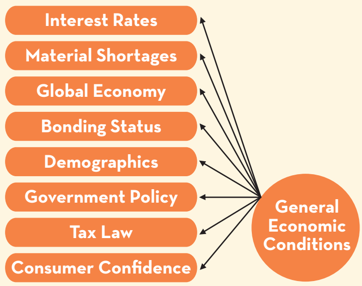


The Nature of the Construction Industry

Many of the characteristics that are unique to the construction industry are also key contributors to contractors' financial difficulties. Exhibit 3 lists several such items, which are explained in more detail below.

Exhibit 2

General Economic Conditions

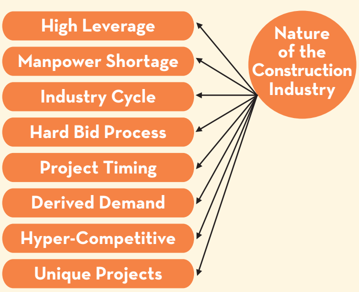


High leverage for contractors does not usually mean a lot of debt, though that can be the case too. More typically for the construction industry, this refers to the amount of revenue pushed through the pipeline compared to the underlying equity base or level of working capital. Contractors, especially in the building market, can do a large amount of business with a little bit of equity. In the late 1990s, some building contractors turned their working capital 40 or 50 times. Leveraging working capital or leveraging equity is what we mean by "leverage" in the construction industry.

Workforce issues represent an industrywide problem that is becoming more and more critical to the success of a construction industry firm. The construction industry is a people business, and without the right people in the right places, contractors are bound to get into trouble. Where are these people going to come from, and where will a construction firm find technically qualified people to do the work in the pipeline now and in the future?

Exhibit 3

Nature of the Construction Industry



The cyclical nature of the industry signifies that construction activity rises and falls faster than the overall economy. Such fluctuations lead to being overcommitted or scrambling for work to keep people busy. Both can lead to problems.

The hard-bid process is unique to the construction business. The way work is procured in a large part of the construction industry is different from the way most businesses work. The owner wants a building and wants to know exactly how much it is going to cost before the project is built. Increasing complexity of projects, fluctuating materials costs and labor concerns all conspire to make this a dangerous get-work practice for contractors. While the predominance of this method is changing with new delivery methods, it is easy to see how contractors still get into trouble here.

Project timing is dictated by owners' schedules, leaving contractors with little control over project start dates. Sometimes project opportunities become available at the same time, leading to overcommitment of company resources. In other cases, project start dates slip, creating staffing and financing challenges for the contractor. Backlogs can fluctuate widely. A related issue is the long project durations, which can result in project impacts due to material, labor, weather, and related issues.

Derived demand is an interesting concept when applied to a contractor. Most businesses think they have the ability to affect the demand for their service or product. If a company wants more business, then it conducts more marketing to create the demand for its product or service. On the other hand, contractors are always responding to opportunities (unless they are able to create a new project and provide the financing as in some design-build, public-private-partnership type projects). Still, 99% of the work done in the construction industry comes from contractors responding to available work. So contractors are at the mercy of the work that comes their way. This easily leads to the project timing issues noted previously.

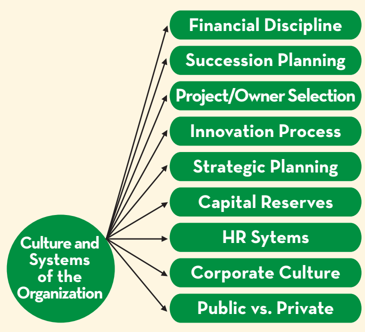
When every project is unique, contractors do not get to practice. The learning curve can be expensive and not all learning is portable to the next project.

The construction industry is hypercompetitive, especially in the United States, with tight, low-margin business. Why is the industry so competitive? Construction is an easy business to get into; low barriers to entry and price-driven competition lead to a very competitive industry. In addition, when every project is unique, contractors do not get to practice. The learning curve can be expensive, and not all learning is portable to the next project.

Culture and Systems of the Organization

In our research, we found that the "culture and systems of the organization" played an important role in a construction firm's downfall. Under this general category are several issues and management areas. Several of these are listed in Exhibit 4.

Exhibit 4
Culture and Systems of the Organization



Lack of financial discipline generally means the business is not being managed like a real business. Some contractors are not good business-people. They are good builders, but they don't give the financial side of the business the attention it deserves. For example, at some firms the financial people aren't involved in decision-making; instead, they are relegated to bookkeeper status with the thinking that the only real work of a construction business is construction.

Succession planning is often missing or mismanaged in the construction industry. This makes it a particularly precarious time when, for example, the longtime leader or founder is ready to leave the business, or when unforeseen circumstances cause sudden leadership changes. Similar concerns occur in transitions that involve subsequent generations as well. Ensuring that a strong leader is replaced with another strong leader when the time is right assures the continuity of the business and future growth. This does not happen often enough in the construction industry.

A poor project owner (or customer) selection process ties back to the project timing and hard-bid process macro causes for contractor failure outlined above. Many contractors do not have a well-defined process for making go/no-go decisions when deciding whether to take on a project. In a highly competitive business, one bad project can mean an unprofitable year, or worse.

Failure of the innovation process usually indicates that there is no innovation process. There is often a sense that construction is a business that never changes. If that was ever true, it is not anymore. Innovation is required to win the work and to build it profitably.

Ensuring that a strong leader is replaced with another strong leader when the time is right assures the continuity of the business and future growth.

Strategic planning that is not strategic is another way to enter the Failure Chain Reaction Model. We have found that many construction companies do strategic planning but don't have very good strategies. They tend to be so caught up in the process that they forget that their task is really to determine what kind of company they are and where the company should be headed. Instead, their "strategic" planning becomes an operational fix-it list.

Companies that do not maintain adequate capital reserves are running on the razor's edge. One misstep can cause them to fall into the cycle of failure. This management aspect is a critical area that affects the long-term sustainability of a contractor. It is often sabotaged by other corporate and personal demands, leading to the company's demise.

Since the construction industry is a people business, all aspects of human resource management are important. Finding and retaining the talent needed to do the job is critically important for construction firms.

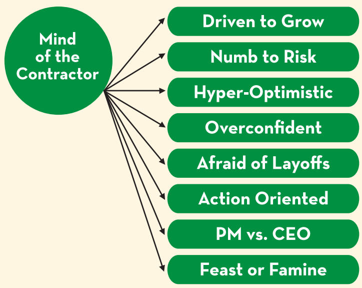
Corporate culture issues have gained recognition in recent years as being more important than historically thought. This area is especially notable when clashes in corporate culture are cited as leading to a company's end. Ethical and moral issues are some of the more serious areas of corporate culture failures, but a company's culture also affects decisions about the company's strategy and hiring needs. The strength of the company's culture dictates not only its ability to hold firm on the practices needed to maintain a financially disciplined organization but also its capacity to change and meet the never-ending evolution of the market and the competition. Our research on failed organizations indicates that cultural issues often contributed to company failures.

The Mind of the Contractor

One of the most surprising and perhaps most interesting results of our research is a greater understanding of the role played by what we call "the mind of the contractor." After reviewing our research, we wondered if we could identify certain mentalities that also increase a company's probability for running into trouble. We found that some of the characteristics that contributed to the success of an individual leader also contributed to the company's collapse. Exhibit 5 lists some of the characteristics potentially leading to construction company failure.

Exhibit 5

Mind of the Contractor



Since all the items on the list are psychological factors, a broad range of interpretations can be drawn. Our research included our own consultants' experiences working with contractors as well as interviews and comparative results from accepted personality tests such as the Myers-Briggs Type Indicator. Generally, if you are a contractor or know those who lead and own construction firms, most characteristics on this list will ring familiar.

Most contractors are by nature driven to grow their business. They want to build the biggest job or perform the most volume. They readily buy into the "if you're not growing, you're dying" mentality. If the firm is a public firm, the market expects it to grow. Part of that expectation is the belief that profits will grow along with revenues. In construction, this result is often not the case.

Contractors are also by nature action-oriented, rapid decision-makers who sometimes act too quickly when a more deliberate approach is needed. Most leaders in the construction industry came from the operations side of the business. Most were former project managers or superintendents. While this is a critical background for a construction executive, the CEO's job is to run the business, not the projects. Some leaders never make this transition. A project focus to the business can lead to a feast or famine mentality. Getting the next project and building the backlog seem to

Most contractors are by nature driven to grow their business. They want to build the biggest job or perform the most volume.

overshadow all other considerations — frequently leading to taking the wrong job for the wrong reasons.

Construction is a high-risk business, so it is not surprising that those who venture into this business are numb to its inherent risks. Or, after decades of facing these risks and succeeding, the contractor often develops calluses to these risks. Many people outside the industry consider the risk contractors assume compared to the low margins gained, crazy. Yet, the people running construction companies don't see it that way. Instead, they sign personally for bank loans and bond guarantees thinking it is "no big deal." They believe they can control the risks. They have strong egos and a can-do attitude. This supreme confidence can be a great characteristic for a contractor, but it can similarly lead to the downfall of the business.

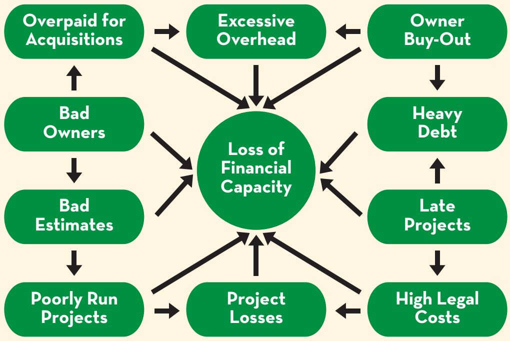
Being afraid of layoffs is linked to the concern contractors have for finding and keeping the right people as well as the drive to grow the business and the cyclicality of the industry. Construction firms that have built up a good workforce in good times naturally want to keep people busy until the next big job comes along. But this can lead to inflated overhead, fattened job costs and poor project selection.

Loss of Financial Capacity

When the contractor's mindset, company culture, general economic conditions and the nature of the industry combine to create poor company performance (the octagon in the middle of the failure chain reaction model illustrated in Exhibit 1), the result is oftentimes the loss of financial capacity. See Exhibit 6 for example causes behind this loss. Before a firm loses financial capacity, however, symptoms of this impending loss can be detected through measures of company performance. In fact, most models that predict the potential of a firm's failure employ some of these financial measures. Unfortunately, by the time these lagging metrics indicate a problem, it is usually too late. The company will typically have already lost its financial capacity and will be scrambling to pay its bills and employees.

Exhibit 6

Loss of Financial Capacity



End Stages of the Model

The end stages of the model in Exhibit 7 shows the interactivity of causes that can lead to a loss of financial capacity, which in turn can ultimately lead to what we call the "bankruptcy doom loop." If these terms sound ominous and scary, they should. Once a firm has lost its financial capacity, failure is almost inevitable. Loss of financial capacity is the ultimate trigger of the downward spiral that includes a decline in surety bonding, the calling of bank loans and the inability to make payroll and pay suppliers.

THE FAILURE CHAIN REACTION MODEL IN ACTION

One of the most important aspects of our preliminary model is the interaction of factors leading to contractor failure. As an example of this interactivity, the failure chain reaction diagram shown in Exhibit 8 illustrates how two micro factors (ego and no strategic plan) can begin the chain reaction. The ego of the leader, a factor from the "mind of the contractor" category, causes him or her to drive rapid growth for the company. However, this growth is being driven without a strategic plan, a factor in the "culture and systems of the organization." Combine these initial causes with poor human resource planning during a period of overexpansion, and project losses are inevitable. At the same time, the organization may make poor financial decisions.

It is not hard to imagine how these initial factors would come together if everyone is focused on rapid growth, and the organization

Exhibit 7

End Stages of the Model

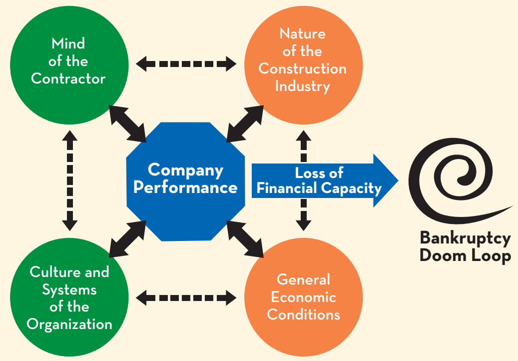
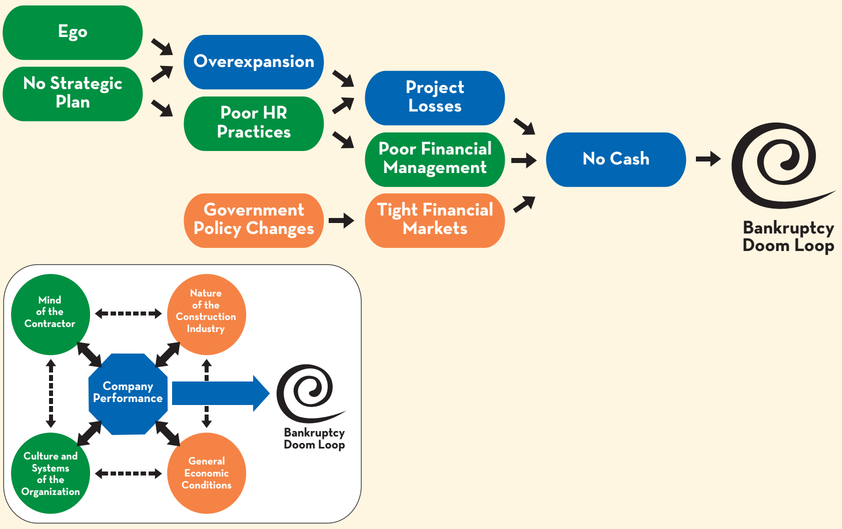


Exhibit 8

Failure Chain Reaction Model in Action



doesn't have the discipline to create a strategic plan. It may be possible to recover at this point in the chain reaction if someone inside or outside the organization says, "Wait a minute, I think this company is in deep trouble." However, this is not likely to happen when the leader has an oversized ego. Although we noted above that general economic conditions were rarely the root cause of failure, a declining market can provide the tipping point or last straw to this impending disaster. At this point, being overextended, due to rapid expansion, late projects, poor cash flow and a host of other poor performance factors, can lead to financial failure.

The above scenario is just one of many possibilities using our failure chain reaction model. After clarifying the items involved in the model and their general interrelationships, we then focused on identifying which elements and relationships are the most common and/or most powerful in the process that led to the failure of large contractors over the past two decades.

THE CAUSES BEHIND THE CAUSES MODEL

Our preliminary model clarified that a systems approach was the best method for understanding the process of going bankrupt. We used that model's framework to organize the information we obtained from our in-depth interviews with a wide array of senior executives involved with many of the recent and large failures in the construction industry. We then identified five dominant root causes — excessive ego, poor strategic leadership, too much change, loss of discipline and inadequate capitalization. Exhibit 9 illustrates a new model that illustrates our perspective on the relationship of these root causes.

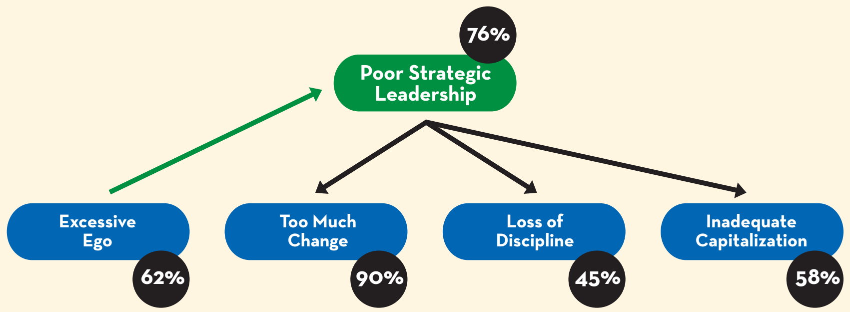
Excessive Ego

The interviews we conducted indicated that in 62% of the company-failure cases, ego-related issues were a crucial element in the actions that led up to the disaster. According to one industry executive:

Ego-driven people scare me the most. In this business, pride and ignorance go together, and experience and humility go together. If you have been around construction long enough, you have failed and been humbled. If you are prideful and arrogant in construction, you simply have not been hit yet.

Exhibit 9

Causes Behind the Causes



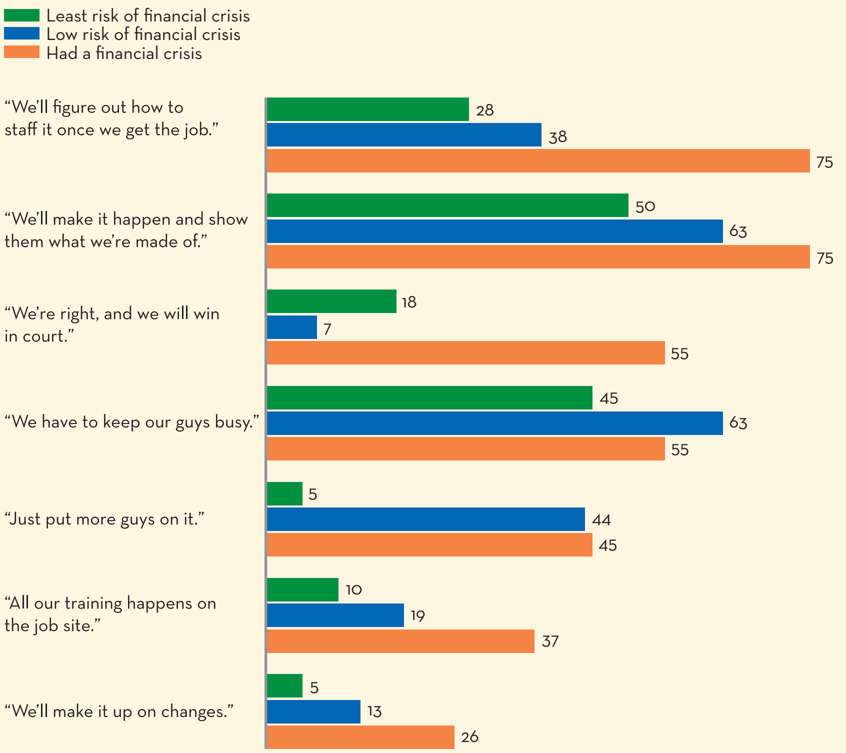
The concept of excessive ego embodies a constellation of attitudes and beliefs that in many ways point to a leader's ability to succeed. However, those same attitudes can often be identified as the root causes leading the company to failure. The concept of a two-edged sword could not be more applicable here. Pride, arrogance, overoptimism, and blindness to realities (to name just a few of the traits) are often characteristics of a leader who fails to develop a team or seek candid feedback. Such leaders may also develop a sense of invincibility. There are many ways in which an excessive ego can distort reality, leading to misperceptions concerning the market, the company's capabilities and the leader's personal needs, any of which can put the firm at much greater risk of failure.

When we asked managers and executives of construction firms across the nation to select the statements that best describe their culture, the responses from companies that are experiencing financial crisis displayed high-ego attitudes more frequently than firms with lower risk. (See Exhibit 10).

Exhibit 10

Evidence of a Relationship Between Excessive Ego and a Financial Crisis

Percentage of survey respondents answering "yes" to statements concerning their company's attitudes and culture. (Sorted by the company's risk of financial crisis)



Notes to chart key:

Least Risk of Financial Crisis = responses from people employed with a contractor that they believe to be well below average in terms of its risk level for having a financial crisis within the next five to 10 years.

Low Risk of Financial Crisis = responses from people employed with a contractor that they believe to be about average, or near average, in terms of the risk level of having a financial crisis within the next five to 10 years.

Had a Financial Crisis = responses from people who have been employed with a contractor that had a financial crisis.

Most of the statements on our list are familiar to those who have worked in the industry for any length of time, and it isn't hard to see how such attitudes can get a contractor into trouble. For instance, a project manager's policy of, "We'll figure out how to staff it once we get the job," often results in a poorly or incorrectly staffed job. As mentioned relative to Exhibit 6, leaders who are trying to grow the company too fast may lack a good strategic plan and/or good human resource planning. While this approach sometimes works as the company scrambles to put people on the job, it also frequently leads to lower margins and late projects. When this approach does work, it builds the leader's ego to the point that a sense of invincibility is reinforced, which can lead to taking greater risks until disaster strikes. As illustrated in Exhibit 10, even companies that we considered low risk for failure said some of these statements described the attitudes in their company. When too many of these ego-centric attributes come together with other factors, the risk for failure in these companies appears to increase.

Often, there is a short distance between the self-confidence needed to assume the risks typical of an entrepreneur and the overconfidence that precipitates the fall of the unsuccessful contractor.

If the perils of excessive ego appear to be obvious, why do companies or leaders let these attitudes get them into trouble? One reason, as mentioned above, is that sometimes these attitudes work; however, more often, in our daily culture, we do what feels right to succeed and stay blind to the dark side of many of our thoughts, beliefs, and actions. Often, there is a short distance between the self-confidence needed to assume the risks typical of an entrepreneur and the overconfidence that precipitates the fall of the unsuccessful contractor.

Poor Strategic Leadership

In 76% of the company failures studied, poor strategic leadership was cited as a leading factor in the business failure. For instance, one executive of a public company that ran into serious financial difficulty said:

Everything comes back to leadership; all the decisions were made by me and a few other people in upper management. We are relatively democratic, considering a broad range of options; we ultimately make the decisions, so problems are our fault. Once we made poor leadership management decisions, there were certain operational failures where lower-level people made erroneous decisions, causing systems and business processes not to work as intended. The problems all stemmed from bad choices made at the top.

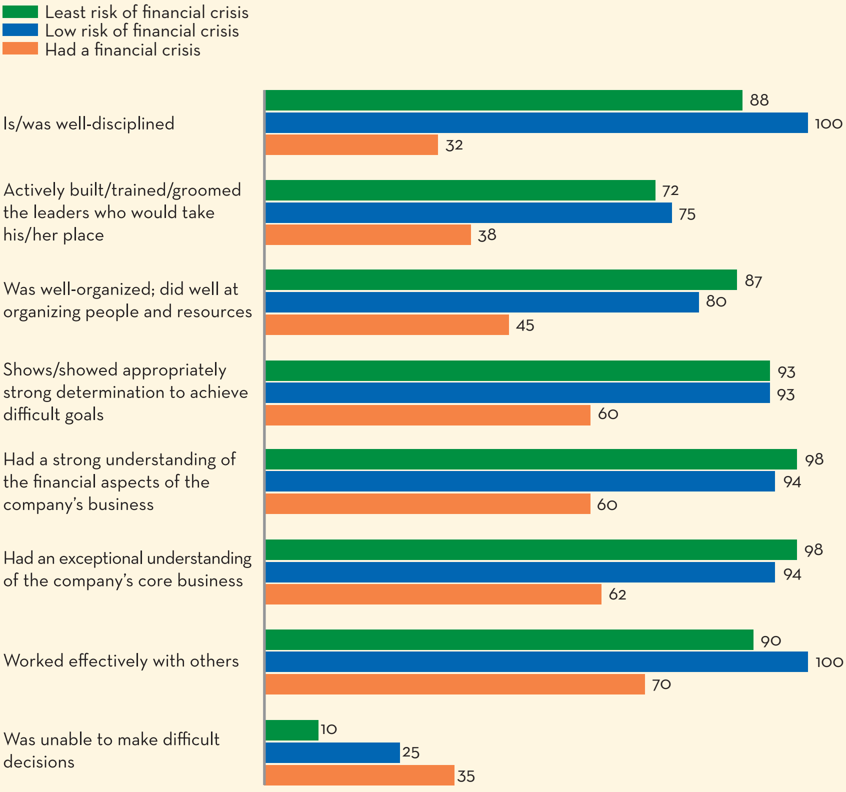
A leader's excessive ego often leads directly to "poor strategic leadership," which is typically the root of a contractor's financial difficulties. Another leadership weakness leading to corporate collapse is not having any (or enough) "skin in the game." This results in a renter's attitude rather than that of an owner. The lack of a personal presence, i.e., absentee leadership, results in insufficient awareness and control of the organization. As we examined cases of contractor failure, we noted that many leaders, due to their excellent building and technical skills, ended up running large companies that far exceeded their business management capabilities. Strategic mistakes resulted. Just as overconfidence can produce wrong decisions bringing down companies, indecision can lead to problems not getting resolved, which can equally topple companies.

We asked executives and managers of construction firms to choose from a list of statements related to the skills and behaviors of strong strategic leaders. Only 32% of executives who had worked with companies that had experienced a financial crisis replied that leadership was well-disciplined. (See Exhibit 11). Not grooming new leaders and successors, showing little understanding of the finances and core aspects of the business, not having an ability to make difficult decisions, and other factors from our responses indicate poor strategic leadership. Sometimes the wrong person gets the top job.

Exhibit 11

Evidence of a Relationship Between Leadership Quality and a Financial Crisis

Percentage of survey respondents answering "yes" or "generally yes" to statements concerning the behavior and skills of their company leader.



Too Much Change

For the large-contractor failures that we studied, a startling 90% of the organizations had initiated a considerable amount of change preceding their crisis. In fact, excessive change appears to be the root cause behind many of the more surface-level causes that are often identified. Examples of these surface-level causes include a sudden increase in the volume of work, entry into new geographic markets, working with new owners and choosing to offer new services. In addition, hiring new senior leaders, changing ownership, hiring new project managers and even installing a new accounting system can all be changes that set events in motion toward the failure of the organization. With each increment of change, there is an exponential increase in the risk of losing the systems of procedure and control that are so fundamentally critical to bringing projects in on time and on budget, and maintaining satisfied owners and employees. Changing too much too fast leads to problems.

The results of our survey support the concept that a constant, yet moderate, pace of change is the best route for a company. (See Exhibit 12). Whereas about half of the respondents from companies rated as "least at-risk" believed their company made changes at a slow and steady pace, none of the executives and managers from companies that had experienced a financial crisis believed this to be true for their companies. Rather, these managers and executives reported their companies to be far more likely to approach change with a very aggressive and overburdening style.

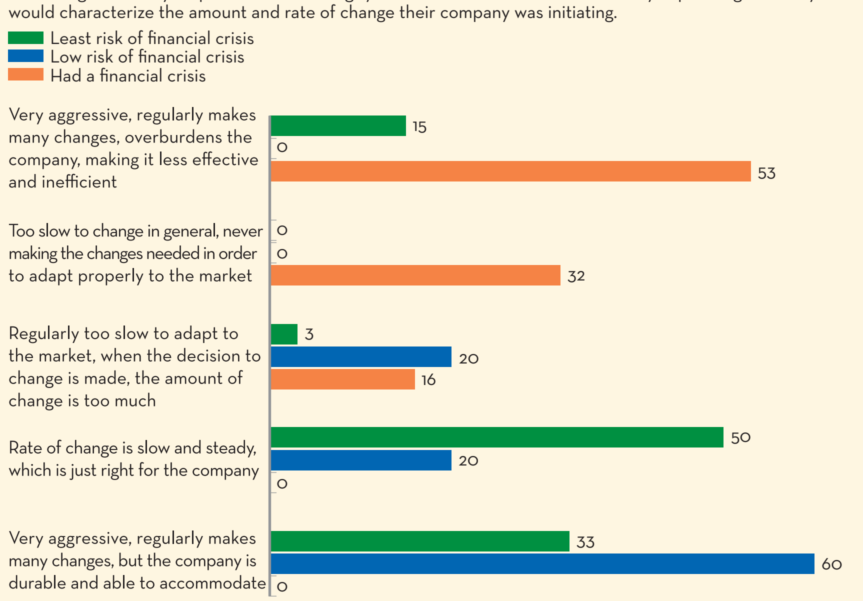
Pushing the Speed Limits of Change

"Firefighting" and "spinning out of control" are phrases that executives often use in their descriptions of companies that took on too much change on their way

Exhibit 12

Evidence of a Relationship Between the Rate of Organizational Change and a Financial Crisis

Percentage of survey respondents answering "yes" to the statement most accurately expressing how they would characterize the amount and rate of change their company was initiating.



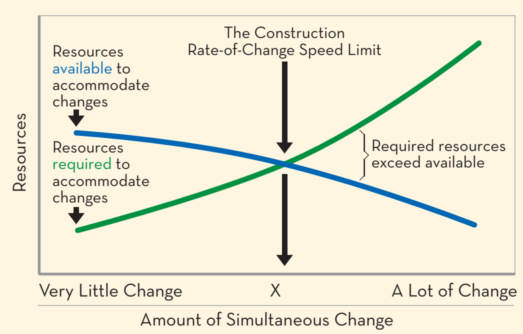
> ***"We blew up because we had too many moving parts. We couldn't keep our focus and fight the fires at the same time."***
>
> — Ex-executive of a failed firm

to financial meltdown. With the obvious importance of managing the rate of change for the survival of a contractor, we felt a need to more clearly understand how the pace of change leads to added difficulties.

To illustrate the problem, we created a graph along the lines of the supply/demand graphs used in economic theory. (See Exhibit 13). The X-axis along the bottom of the diagram represents the total amount of change within the organization occurring at one time. The vertical Y-axis represents amounts of resources, which can be machines and internal systems (computers, construction equipment, accounting systems, etc.), but primarily is used to represent human resources (the mental capacity for change as well as simply the number of employees in the firm). The upwardly sloping green line represents the resources required to accommodate change, and the downwardly sloping blue line represents the resources available or remaining to accommodate the changes being made in the company. As the amount of change increases, the amount of resources used to accommodate the change increases and the amount of resources available to accommodate additional change decreases.

Exhibit 13

Contractor Resource Equilibrium vs. Rate of Change



The rate-of-change speed limit is the point at which the upwardly sloping line intersects the downwardly sloping line. It is at this point that the company is operating at its speed limit, or maximum level of change, using all of its resources to accommodate the changes being made. If the company exceeds its speed limit, the ability for it to maintain its discipline and quality of work is severely compromised, and there is an increasing risk of instability leading to failure.

Loss of Discipline

Whether it occurs because of too much change or is a gradual decay, the loss of discipline is one of the most caustic root causes of contractor failure. About 45% of the large contractors we studied reportedly experienced this erosion of discipline. The importance of maintaining discipline in the management and operations of the company is no different from the importance of discipline in the processes employed in constructing a building. If the measurements are off or attention to detail is neglected, cost overruns and on-the-job accidents become the focus of attention. The analogies for management include, but are not limited to, staying true to appropriate project selection and pricing policies, taking efforts to maintain an entrepreneurial spirit, avoiding bloated overhead and complex organizational structures, and not succumbing to the impulse of needing to "feed the beast" or take the seldom-actualized "break-even" project just to keep people busy.

The results from our nationwide survey of construction executives and managers show that how well a company is believed to be "keeping its eye on the ball" is directly related to its risk of financial crisis. (See Exhibit 14). We defined "keeping the company's eye on the ball" as not changing from proven practices regarding solid hiring, training, employee retention, accepted project risk level or proper job estimating and/or cost controls.

Executives and managers in companies that had experienced a financial crisis more frequently reported their company took on strategies that didn't fit core competencies and seldom had a culture that supported learning from mistakes. (See Exhibit 15.) In contrast, executives and managers from companies believed to have a low likelihood for a financial crisis reported their company's behavior as being more disciplined.

One individual we interviewed illustrated this by saying: "We have about eight offices. I say that could be about seven too many." Companies that lack a good growth strategy or are inattentive in deploying their strategy can end up with more infrastructure than the company can support. The result is a lack of focus, a drain on resources, and, in order to keep people busy, the urge to chase projects that don't fit the business. Lack of discipline is often seen in the lack of a "way" that the company does things. There is no standardization of processes or systems. There are many ways that a loss of discipline can get a company into trouble, and it is a strong sign that a company may be heading toward failure.

Companies that lack a good growth strategy or are inattentive in deploying their strategy can end up with more infrastructure than the company can support.

Exhibit 14

Evidence of a Relationship Between Maintaining Organizational Discipline and a Financial Crisis

Percentage of survey respondents who answered "yes" or "generally yes" to a statement concerning their company's consistency in maintaining organizational discipline.

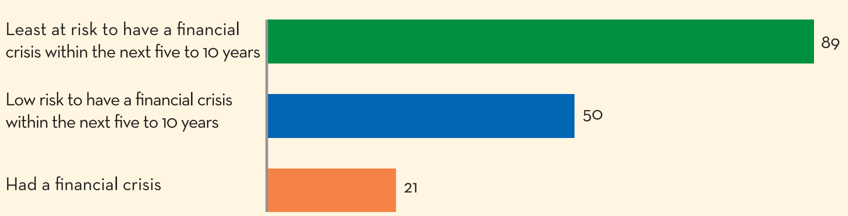
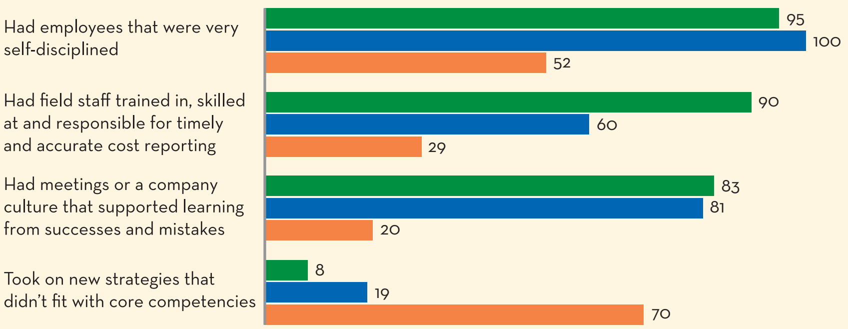


Exhibit 15

Additional Evidence of a Relationship Between Maintaining Organizational Discipline and a Financial Crisis

Percentage of survey respondents who answered "yes" to statements revealing company practices characteristic of maintaining organizational discipline.

Least risk of financial crisis
Low risk of financial crisis
Had a financial crisis



Inadequate Capital

The last major root cause for contractor failure is having "inadequate capital." This was the case in 58% of the crises we studied. This refers to companies that maintain a level of capital that is inadequate for ensuring a sufficient buffer for sudden, unexpected needs (despite what the company leader may think). The economics of the construction industry are rather unique, and many leaders fail to grasp the severity of risk that the company is exposed to by maintaining an inadequate amount of capital. There are many forces tugging, even yanking, on the leader to take funds from reserves in order to fund other, seemingly more pressing, needs. The list of issues related to an inadequate amount of capital is long. The following is a partial list:

- A financial policy that is too liberal and that consistently targets a level of contingency/reserves that is inadequate.
- Being forced to litigate disputes since the capital base is inadequate to allow compromise.
- Large, long-duration projects causing significant equity, cash and working capital to be tied up in uncompleted work (or claims).
- Pressure to show profits prematurely. Equity reflected in percent of completion estimates does not reflect real profits.
- Ownership-related capital depletion. For instance, stockholder buyouts lower the capital base of the company.
- Diversification into illiquid assets. Assets tied up in real estate do not provide cash available to solve problems that may arise.
- Surety availability. Lower equity means reduced bonding capability.
- Managing cash vs. managing the business. As cash runs short, too much time is spent managing cash, taking focus away from the business.
- Overleveraging — too much debt, too little "real" equity.
- Overpayment for acquisitions.

- Leadership's unspoken assumption that the firm will incur no bad luck.
- Leadership's reliance on "phantom" capital, which is the equity reflected on a balance sheet that is made up largely of estimated profits on uncompleted work.

Prudent management dictates that the firm's equity and working capital levels be maintained at a level to survive unforeseen problems.

THE NATURE OF THE CONSTRUCTION INDUSTRY AND GENERAL ECONOMIC CONDITIONS

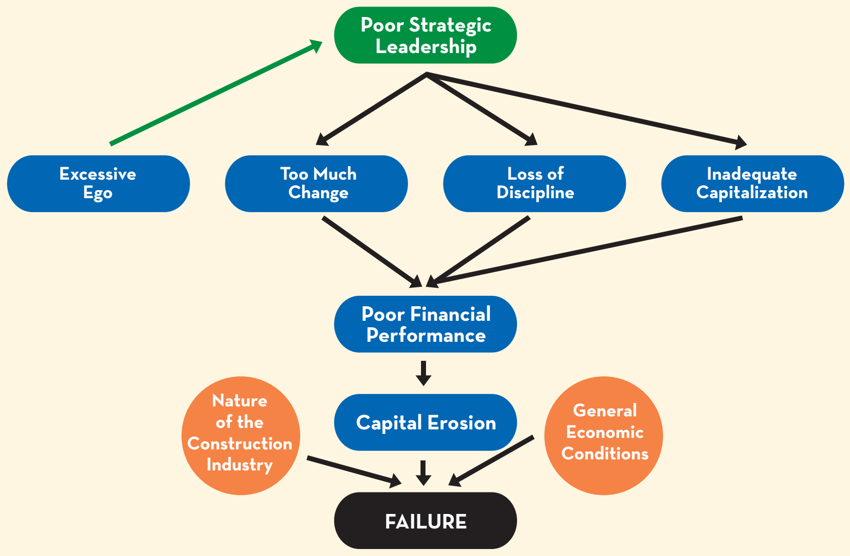
Many people from failed companies point to issues outside the control of their company as the causes of its demise. Yet, in any market at any time, you can find examples of companies that succeeded despite the same external force being present when another company suffered a catastrophic financial event. In fact, in our study, many seasoned industry executives emphatically rejected the notion that luck or other extraneous forces are responsible for a company's decline.

Nonetheless, we do see a need for identifying the role that external economic conditions can play. Our study indicates that these externalities are not root causes but actually accelerants that quicken the pace of demise for those companies that already suffer from one or more of the root causes noted. It is a rather thin edge on which successful contractors live. A significant misstep can end the life of the company. The depth and complexity of the troubles that take large contractors down is evident; we see more liquidations than reorganizations.

Using parts of our original failure chain reaction model and focusing on the critical root causes results in the simplified model below. (See Exhibit 16). This model illustrates the interplay of the critical root causes that lead to poor financial

Exhibit 16

Failure Chain Reaction Model: Critical Root Causes



performance, which aggravates the issue of maintaining adequate capital (creating "capital erosion"). Finally, additional input from external forces may accelerate the firm's pace to failure.

FMI is working on the development of diagnostic tools that are based on this model and that will provide new ways to assess a contractor's level of risk for incurring a financial crisis. Whereas the majority of our work has always been to help our clients improve their corporate strength and value, it is now clear that the activities required for a contractor to grow and prosper are not exactly the same as those necessary for it to have sustainable success. The tools resulting from this research, and the continuing knowledge-building in this area will be valuable aids in building a better construction industry. ■

Hugh Rice *is a senior chairman of FMI Corporation. He may be reached at 303.398.7223 or via e-mail at hrice@fminet.com.*

Keeping Your Surety Fully Informed

By Mike Bond

#59

Few of us like surprises, least of all a surety company. Each year, Zurich's underwriters sit down with its customers to go through their financials and discuss backlogs and their progress against plan. Most of the time, the discussions hold no surprises — the surety's expectations around the results and the discussion have been shaped by updates throughout the year. However, with the recent turbulence in the construction market, there have been rough meetings where the underwriters were handed a surprise, due to profit fade, restated earnings or a projected profit turned into a loss. These are difficult and uncomfortable meetings. And they generally result in less surety credit available for the company.

To avoid this problem, a contractor needs to be open and transparent. At Zurich, we often repeat the old saw "underpromise and overdeliver." But that is key to managing the expectations of the surety. We have heard the excuses before: The contractor is working through the "bad" job; the contractor let go a "bad apple" to turn around the company; the contractor has a plan to turn the "bad year" into a profit. We understand the optimism that is necessary for a contractor to be successful. But we want to see the contractor deliver. One of the surety fundamentals, one of the three "Cs" (in addition to capacity and capital) integral to surety credit, is character. An important part of character is living up to one's word. Character comes into question when a customer cannot deliver.

As the overall economic recovery starts to move forward, the public construction economy has fallen further behind. Conventional wisdom states that the financial statements of construction firms lag the general economy by at least 24 months. The financial results we are seeing today have their roots in business that was put on the books in 2011, well into the current crisis. Across the market, the number of customers with net losses continues to increase. Given the material decrease in backlogs, the heightened competition and the thinner margins, this was not unexpected. At the market level, results align with our expectations — smaller firms are showing more problems than larger companies are, and some specialty contractors appear to be harder-hit than others. According to the Surety & Fidelity Association of America (SFAA), the overall loss and loss expense ratio for the surety market increased by more than 36% in 2012 compared to 2011, a sure sign of the deterioration in the credit quality of the accounts that sureties are bonding.

An important part of character is living up to one's word. Character comes into question when a customer cannot deliver.

With that said, there are positive signs of economic recovery and a sense of optimism in the construction community. That sense of optimism seems like a fundamental requirement of the business. Clearly, surety credit plays a vital role for all contractors involved in the public market and commercial construction. Today, we see customers in two categories regarding surety credit. First, there are companies that have a strong presence in their marketplace or niche and have done well despite the recent problems. Because of this profitability, sureties are working hard to meet the credit needs of these customers. These customers generally report that surety capacity is strong and they have the support they need for the next 12 months.

There are positive signs of economic recovery and a sense of optimism in the construction community. That sense of optimism seems like a fundamental requirement of the business.

Customers in the second category are those that have not posted profitable results. Many in this class were unable to adjust their overhead and administrative costs quickly to match the "new normal." For the remainder of 2013 and into 2014, this group will require surety support more than ever before in order to successfully compete for work in the government and private sectors.

Firms that posted unprofitable results in 2012 must work extra hard to maintain and grow their surety capacity in order to acquire the type of work that they need to succeed. When approached by our customers in these circumstances, we offer the following guidelines:

Understand the capabilities of your firm and make certain you have a business plan that makes sense in terms of size of jobs, geographic reach and sectors served.

- Focus on the traditional three Cs of surety — character, capacity and capital. Surety underwriters will no doubt emphasize these factors to help them select the best customers. Contractors must also focus on the three Cs of communication, communication, communication, so there are no surprises.
- Keep your surety advised of your progress throughout the year and do not wait until year-end results are finalized. Keep it posted about problems on jobs and difficulties with problematic owners. Sureties do not like to receive bad news, but it is worse to receive bad news late in the game. That builds ill will with the surety right at the time when you need its support more than ever.
- Understand the capabilities of your firm and make certain you have a business plan that makes sense in terms of size of jobs, geographic reach and sectors served. Take a fresh look at your expense structure and ensure that it matches with the opportunities that you realistically see in the next 18 to 24 months. Tough choices may need to be made (again), but it is vital to make sure your firm is as right-sized as can be until the economy gets to where we all hope it will be. Articulate that business plan, make sure your entire organization understands the plan, communicate it to your surety, and follow it.

The business plan demonstrates a sense of strategic direction. Where do you see yourself not tomorrow, but next month and next year? Articulate that plan. Deliver on the plan. Demonstrate that character.

- Be sure to understand completely any requirements identified by your surety. Make certain those requirements are realistic and reachable, and work to achieve those goals. Manage expectations and live up to your word — it is all about the character.

Have the best team on your side to help build and maintain the surety credit you need. You need a surety that understands you and is willing to support you. You also need to work with a professional surety-oriented agent or broker, a trusted advisor with construction experience and a construction-knowledgeable CPA. There is good reason why some agents specialize in the surety needs of construction firms like yours and why your best-in-class competitors use particular construction-oriented CPA firms. It is because of the value these professionals bring to their clients and the ways they help you present yourself to the surety marketplace in the most positive manner.

Red ink does not have to mean a reduction or elimination of surety credit. Many successful construction firms have worked their way through difficult times by building on their surety relationships. In times of market volatility and economic uncertainty, sureties respond most positively to customers with a strong business plan and that communicate in an open and honest manner. ■

Mike Bond *is head of surety at Zurich North America. He can be reached via email at michael.bond@zurich.com.*

Hire the Best and Brightest

By Jerry Jackson

#60

Most of us would agree that hiring and keeping the best and brightest people are key strategies for growth and survival. Your company is undoubtedly after a significant return on investment when it comes to your employees.

The right hiring process can help maximize that return on investment by systematically examining the major components of the right fit. We define that fit as:

ROI on People Hires = Talent x Fit
Where: Talent = Knowledge + Competence and Fit = Behavior + Expectations

Most of us recognize intuitively the need for successful candidates to possess both talent and fit. However, we need to examine each of the subcomponents separately to ensure the proper match.

For example, a person may need only basic knowledge to be competent, but some people can have plenty of knowledge and be totally incompetent. Finding the right talent requires you to enumerate how much of each of these subcomponents is necessary for all dimensions of the position.

Anyone who has been through much hiring can recall experiences where all of the talent questions were answered, but the fit was not right, and, as a consequence, the hire did not work out. Fit is one of those soft concepts that we tend to "feel." It is a matter of finding someone who behaves in a way that is compatible with the people already in the company. While not quantifiable per se, those behaviors are tangible and identifiable enough so that you could identify them and use them in the candidate evaluation process.

A second component of fit is the issue of expectations — those of the candidate and the company. If the candidate and the company do not thoroughly discuss these expectations during the hiring process, then the potential for a backfire is not too far down the road.

With enough work in setting clear expectations on both sides upfront, a lot of misfires could be averted. The right candidate will demonstrate the right kinds of behaviors that lead to success in your firm. Equally important, you will have reached a clear understanding early in the process regarding the individual and shared expectations.

SETTING UP A BENEFICIAL PROCESS

It is not that difficult to set up a structured process in your organization that can yield tremendous returns on your people investments. The operative words here are "structured process." The worst hiring decisions any of us make are those that are made because we are in pain and act too hastily. A structured process can keep you from making a hasty decision that you will later regret. Consider a structured process as one that includes these basic elements:

Human Resource Plan. The idea here is to project your people needs as part of your annual business plan. Your annual plan should dedicate a specific section to dealing solely with personnel requirements. You may want to look at past productivity or results by position or category of employee. Most importantly, plan ahead so that you are not forced into a 100% reactive mode when the need arises.

Specifications. For every managerial position, you should list the basic specifications that spell out what you are looking for in the successful candidate. If you want to expand this list to include job description criteria, that is fine, but it is not the point. What you want to do here is to identify between one and five absolute "must-haves" for the position. You must identify and be absolutely dogmatic about sticking with at least one such criterion, or your target market is the entire world.

The "must-haves" are necessary to serve as effective screeners. On the other hand, do not get so carried away that you wind up with 10 or more "musts."

Sources. You need to have identified beforehand and prioritized multiple sources for potential hires. Keep your sources alive, even when you do not need anyone. That way your options will open up more quickly when you do.

Keep your sources alive, even when you do not need anyone. That way your options will open up more quickly when you do.

Telephone Interviewing. You can eliminate many candidates in the span of a brief phone conversation. Career counselors hate this technique and advise their clients to dodge these calls whenever possible. These counselors are the same people who advise their clients to "apply anyway, even if you are not qualified." They know that far too many managers do not stick to their "musts" to begin with. Your job is to start here so you do not waste large blocks of time down the road.

Referencing. You need to fit this step somewhere in the process. If you will have to pay for travel in order to interview the recruit, you may want to make your calls before the first face-to-face meeting. Where references do not check out, you will save money. Incidentally, there is no reason to check "social" references. They will always check out.

Interactive interviewing. Eventually, you are going to select the best three to five candidates for personal interviews. This process should involve at least two events or visits and should also involve multiple interviews with different people in your organization, although one at a time, please — we want the candidate to be open, not defensive.

If you want the best and you are serious in the belief that people really are your most important assets, then be thorough in your hiring process.

Formal offer. Once you have been through an adequate process and feel as if the decision is clear, then you should move forward with optimism and speed. Make the offer, treat pay and benefits explicitly, pay on the high side of any range you may have quoted in the early stages of the interview process, and give a deadline for acceptance. Do not negotiate the pay. You can negotiate benefits, starting date, almost anything but the pay. Do it now, and you will do it again and again!

Obviously, you will have your own technical and fit criteria. If you want the best and you are serious in the belief that people really are your most important assets, then be thorough in your hiring process. It will pay you back many times over. ■

***Jerry Jackson** is* FMI Quarterly's *publisher and senior editor. He can be reached via email at jjackson@fminet.com.*

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