FMI Quarterly
2013 ISSUE 3

# 60 BRIGHT IDEAS FROM OUR FIRST 60 YEARS

## THIS QUARTER



## 60 IDEAS FROM 60 YEARS

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## Dear Reader:

Ten years ago, Hugh Rice, then newly elected president of FMI, asked me to produce a professional quarterly that would enable sharing FMI ideas, results and research with the construction industry. We wanted our publication to be free of advertisements, filled with useful information and something our subscribers would look forward to reading each quarter. The content would be developed largely by FMI consultants, investment bankers and researchers. It would be attractive and reinforce FMI's image as thought leaders in the industry. We put together an operating budget, found that this would be a more expensive undertaking than could be supported solely by subscriptions, and reached out to an industry partner, Zurich North America Construction, to assist us in this undertaking. We hope that you have found our efforts valuable.

The beginning of our publication coincided with the 50th anniversary of FMI's origin. Consequently, in that first issue, we aimed to bring you 50 lessons learned in our first 50 years. It took no great leap of imagination to decide that FMI's 60th year (and our 10th year of *FMI Quarterly*) would be underscored by bringing you 60 ideas. As we began putting this issue together, we quickly determined that publishing all 60 ideas in a single volume would tax both our printers and our readers. We solved our immediate concerns by splitting the salutary 60 ideas into two volumes. This issue brings you the first 30, and our next quarter's issue will round out our offering of 60 ideas by bringing you the second half.

While we normally provide you with several articles keying on a single theme, plus another batch of articles that bring you variety, the only theme behind these 60 ideas is that both singly and collectively, they are ideas that when implemented with skill, will bring you increased profitability. Given that Doc Fails' original intention in forming FMI was to improve the profitability of the construction industry, we think that 60 years later we are keeping that notion alive.

Thank you to those who have been our readers for the past 10 years and to the new readers of *FMI Quarterly*. We also especially thank our clients and influencers of our clients for the terrific relationships that we have built over the years. FMI intends to continue to serve you for another 60 years and beyond. Thank you for letting us be one of your trusted advisors.

Sincerely,

Jerry Jackson
*FMI Quarterly* Publisher and Senior Editor

# Competitive Research

*By Jay Bowman*

# #1

The nature of competitive intelligence is largely misunderstood and consequently misdirected in the construction industry. Quite commonly, efforts are made to reveal some well-guarded secret or secrets as to the success of competitors that merely need to be replicated or topped in order to negate their perceived advantage in the marketplace.

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In FMI's experience, the most successful contractors employ no such secrets. Their advantages are no mysteries. They have mastered two things: 1) the simple execution of day-to-day activities that matter most to project owners and 2) early recognition of how recent developments and various trends combine to create a new and emerging set of opportunities.

Perhaps the highest compliment a project owner can give a contractor on project completion is, "It was a pleasant experience." Herein lies the most common misconception among contractors about their competitors. The assumption is that the "best" competitors are doing something unique that creates unexpectedly superior outcomes. No doubt, some outcomes are superior to others, but "superior" is almost always defined as "not inferior." In more simple terms, a "superior" outcome for most project owners occurs when his or her expectations are met. Few project owners, it may be argued, expect anything more. The industry is littered with examples of unmet expectations, to the point that expectations actually being met are the rarity. Project owners are quite satisfied that things go according to plan. And when they do not, they only want a contractor that has the desire and the wherewithal to minimize disruptions and return to plan as quickly as possible.

Many contractors engage in a quixotic pursuit of some mystical combination of service offerings and solutions to achieve a "superior" outcome, one greater than has been defined and agreed to by all parties as sufficient. Consider the young boor who wants to become a gentleman and randomly adopts one kind gesture after another. He helps the widow across the street. He tips his hat to the elderly man in his apartment building. All the while, he needed only to quit acting like a boor. Likewise, many contractors adopt one seemingly important ingredient for success after another, whether it is building information modeling, LEED or some other technology du jour. It is like icing without the cake; there is no substance and few are interested for long.

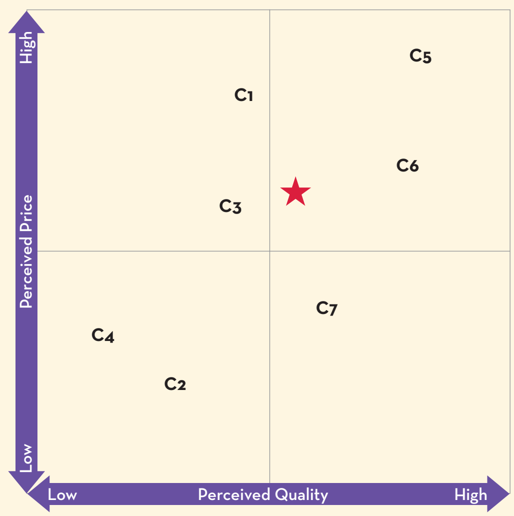
Every project owner has his or her own determinants of value. Generically, these may be placed in five broad categories. They include price, quality, schedule, reflection and response (please see sidebar.) What a project owner values most may not be limited to a single one of these broad categories, but he or she will not value all five equally. It may be said that all contractors inherently understand this, but there are three things that conspire against them in finding meaning in these determinants of value. First, they are too often distracted by ill-designed client and customer surveys and the like that can only be interpreted as "all of these things are important." Therefore, no attempt is made to understand project owners better. This universality of importance is true, but again in variation. Choice means accepting one thing at the exclusion of another. Second, few, if any, contractors have segmented their clients and customers according to what they value. Rather, project owners are roughly described, for example, as commercial, education or health care clients and customers, although their values may differ greatly. Third, few contractors can articulate a value proposition that marries the first two. Instead, most contractors promote something akin to a corporate mission or vision and statement of qualification.

As simple as it may sound, the "best" contractors heavily invest in understanding the needs of their clients and customers (or better stated, what they value). They then pursue those clients and projects that fit with their own capabilities and resources and avoid those customers and projects that do not fit. Their value propositions, as academic as the term sounds, are just a statement of the value (or benefit) of the features the contractor possesses. For example, a utility contractor with a substantial fleet of equipment and mobilization skills communicates to the client or customer an ability to respond to any emergency within 24 hours, or even better, to restore power to consumers within 24 hours.

How then does one learn what his or her clients or customers value? As previously mentioned, most project owners claim everything is important. Asking who, meaning a contractor's competitors, is performing better than others is what reveals true importance. This is realized by what the project owners state as the strengths of a particular competitor. Obtaining such candid responses from clients or customers may be tricky. Therefore, it is suggested that this information be collected as part of an ongoing performance feedback loop. In fact, the best competitive intelligence is often found when conducting such research. Again, the "best" contractors incorporate these efforts to confirm what their clients and customers value, measure their success in delivering value and prepare for possible changing values. This sort of research also inevitably reveals more competitors than typically regarded by contractors. In FMI's experience, the number of competitors perceived by project owners regularly numbers three to four times those that the contractor would name. This data is most commonly illustrated by a competitive positioning map, as seen in Exhibit 1.

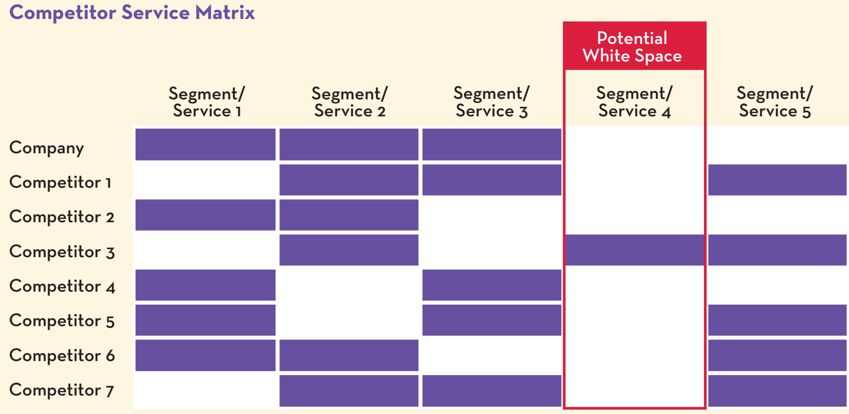
In addition to direct feedback from project owners, competitive intelligence can be gleaned from corporate websites, press releases, recruitment advertisements and industry presentations. Corporate websites reveal the target projects that a competitor is pursuing as well as key clients or customers. Few, if any, competitors list clients or customers that would provide a poor reference. Press releases can indicate the strategic direction a competitor is taking. Recruitment advertisements often carelessly reveal financial information such as revenue and growth or the opening of a new division or office. Industry presentations are placed on the Internet and then forgotten. All of this information exists in the public domain and therefore meets no ethical violations.

Exhibit 1
**Competitive Positioning Map — Quality and Price**
C1 – C7 = Competitors
★ = Company




One competitive intelligence tool believed to be most beneficial to contractors is a white space map, as seen in Exhibit 2. This is simply a table that lists a contractor's various competitors as rows and construction segments, geographic markets and/or service offerings as columns. A check mark indicates that a competitor "plays" in that space. Where check marks are lacking presents potential opportunities for a contractor to exploit.

Exhibit 2
**Competitor Service Matrix**



### FIVE CATEGORIES OF VALUE

**Price** is more than just a competitive price; it reflects how well the contractor understands the requirements of the project. For example, are major components or design elements missing from the contractor's proposal? Also, if the contractor recognized something missing in the design, but accounted for it in the proposal and price, was it indicated to the buyer?

**Quality** is simply a product that meets the buyer's expectations and is free of defect. Yet, buyers will often perceive quality by the appearance of the contractor's equipment and staff as well as job site conditions (e.g., cleanliness). Poorly maintained equipment, the lack of a basic uniform, a trash-strewed jobsite — these all may lead a buyer to perceive poor quality (and professionalism), despite the final project outcome.

**Schedule** is as much communicating and managing the schedule as delivery against major milestones. Buyers who do not know where things stand schedule-wise naturally assume the worst.

**Reflection** is how the contractor represents the buyer, both internally and externally. Buyers want to be confident in their selection. Similar to the issues raised for quality, reflection also is exhibited by how a site is returned to its original state, how the contractor's staff and subcontractors act in occupied or observable space, etc.

**Response** is simply how the contractor reacts to both simple and difficult requests. It is more than simply returning emails and phone calls. Rather, it is the inclusion of options and potential solutions to problems. Moreover, it is instilling the confidence in the buyer that, should difficulty be experienced, the contractor will accessible and actively engaged.

Last, market share estimates, which need not be exact, may be used to determine the maximum revenue a contractor may be able to capture in pursuit of a particular construction segment and/or geographic market.

Over time, competitive intelligence may very well disproportionately favor the midmarket contractor. At the end of World War II and the introduction of the Marshall Plan to rebuild Europe, government sponsorship of certain contractors was required. The task was too big in what is commonly experienced in the U.S. This was, in essence, the first modern public-private partnership. Winners and losers were chosen. Today, though there is no "rebuilding" effort in the U.S. stemming from war on our domestic shores, government involvement increasingly is felt in the industry. Yet, what is different about today is the proliferation of technologies that allow the midmarket contractor to "level the playing field." While it is essential for these contractors to adopt these technologies, they do not provide competitive advantage in and of themselves. This is the mistake so many have made. Rather focusing on the fundamentals — the blocking and tackling, if you will — is where competitive advantage is achieved. And those that know when to block and when to tackle will emerge victorious. ■

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# Trade Associations and Industry Service Partners: What Do They Offer?

**By Michelle Anysz**

#2

If you are involved in the construction industry, chances are you are a member of a local, state or national trade association. If not, you probably have a working relationship with a construction industry-related service partner, such as a CPA group, software company or law firm.

Whether you are a general contractor, a construction manager or a specialty trade contractor, there are plenty of educational opportunities for you to participate in a variety of targeted trade associations. The opportunity is there. Are you taking advantage?

By offering education, trade associations and industry service providers support their members and clients with information and management techniques that add value in helping contractors become more effective in managing their businesses.

You and your business can benefit by taking advantage of the educational programs these associations or organizations offer. Each is staffed with professionals who constantly explore developments for the industry they serve, and many provide a wide variety of learning opportunities.

## EDUCATION FOR EVERYONE

Depending on the position within the construction firm, there are a range of opportunities for most personnel. For example, those in general contractor upper management can use their membership to take advantage of education with the Associated General Contractors( AGC) or the Associated Builders and Contractors (ABC) or at a seminar put on by an industry service partner where the topics and agenda are specifically developed for those in such roles.

In addition to general contractor trade associations, many owners, presidents and CEOs are involved in other specialty associations, such as the Distribution

Contractors Association (DCA), Mechanical Contractors Association of America (MCAA), and the Sheet Metal and the Air Conditioning Association (SMACNA), to name a few.

The Construction Financial Management Association (CFMA) was developed to serve the educational needs of chief financial officers in the construction industry. CFOs are continually informed on topics relevant to the practice of construction financial management via courses and seminars.

The Construction Management Association of America (CMAA) is North America's only organization dedicated exclusively to the interests of professional construction and program management.

Local trade associations offer education for non-management roles as well. Workshops are geared towards field personnel, such as estimating, project management, safety training, expanding market share and people management.

## EDUCATIONAL OPTIONS

The quantity of construction industry-related educational offerings that exists is staggering. There really is something for everyone! Annual conferences and conventions are an obvious opportunity for local and state trade associations to offer education to their members.

The largest construction industry convention, CONEXPO-CON/AGG, which is owned and produced by the Association of Equipment Manufacturers (AEM), is an international exposition held every three years in Las Vegas, Nev. This convention is aimed toward everyone in the construction industry interested in improving bottom-line performance, elevating industry standards and increasing personal proficiency and expertise. Showcasing the latest equipment, products, services and technologies, the 2014 CONEXPO-CON/AGG is slated to feature more than 2,400 exhibitors and a comprehensive education program with sessions emphasizing industry issues and trends, management and applied technology. More than 130,000 are expected to attend the next convention.

CMAA presents two national gatherings annually. The Owners Leadership Forum is held in the spring, and the National Conference & Trade Show takes place in the fall. In addition, professional development programs, including instructor-led courses, self-paced online programs and webinars, are offered throughout the year.

"While it is often difficult, spending two or three days away from my office gives me renewed perspective and energy on my work and my organization," states Stephen T. Ayers, FAIA, LEED AP, Architect of the Capitol. "The educational sessions at CMAA's Leadership Forum offer a unique opportunity to get continuing education credits that we all need for our professional registrations. They also are strongly relevant to my

> **The quantity of construction industry-related educational offerings that exists is staggering.**

current business. All of us are dealing with BIM, LEAN, risk, constructability, commissioning, scheduling, knowledge management and partnering every day. This year's Leadership Forum theme focuses on 'solutions and connections' and I ask, Who doesn't need both solutions and connections to be successful?"

If traveling to a national convention is not in your travel budget, then perhaps you can take advantage of educational opportunities within your own state. ABC of Alabama hosts an annual BizCon event, which is focused on business connections. Alabama's leading contractors from four Southeastern states attend this annual event for networking and in-depth and unprecedented economic development and trends that affect development in the Southeast.

Mittie Cannon, director of Workforce Development with Robins & Morton, has attended the ABC Alabama BizCon event for the past three years. "I attend BizCon because it allows me networking and professional development opportunities," states Cannon. "As a workforce development professional young in my profession, it is critical that I network with others across the industry. This allows me to learn from others through live dialogue and the exchange of ideas. BizCon helps me better understand the status of the industry and where we are headed. I do not always think about the industry from an economist's perspective, but at BizCon, you hear and learn the economics of construction. It is important that we have these conferences. And the training will help me better serve Robins & Morton as well as the industry."

**Trade associations and service providers are now offering remote events, such as webinars, to educate members in a large circumference area.**

The Washington Society Certified Public Accountants continuing professional education program is the most extensive educational resource for CPAs in Washington state, offering more than 12,000 hours of live professional education annually. From tax education, fraud education, or chapter or committee events, there are so many different types of educational opportunities from which construction financial managers can choose.

Based in Chicago and able to serve clients nationwide, The PrivateBank Construction and Engineering Group focuses on architects, engineers, contractors (general, prime, sub and specialty) and building material suppliers. During its annual conference, The PrivateBank Construction and Engineering Group provides its clients with presentations on topics pertinent to the construction industry, including business strategy and emerging national and local trends.

### GOING ONLINE TO LEARN

Trade associations and service providers are now offering remote events, such as webinars, to educate members in a large circumference area. There are many valuable reasons why webinars have increased recently. Travel is not required for attendees, as they can join in from their office or home computer. Hence, there is more time for the attendee to be dedicated to the webinar. Another benefit is that attendees can invite other members of their organization to observe the webinar, which reduces education costs to the employer.

Webinars also benefit the host, as there is no meeting space or equipment to be rented. In many cases, the association or organization can keep a copy of the webinar and post the presentation on its website, providing member value and increasing the number of visitors to the organization's website. The host can also distribute copies to its membership or clients via email.

Dexter + Chaney supplies the construction industry with award-winning construction software for business and operations. The software firm offers a popular series of complimentary webinars designed to help today's busy professional plan, develop and execute best practices for the construction industry. Some of the topics included in its 2013 series are Lawsuits: Prepare for the Worst, Hope for the Best; Driving Best Practices in Business Development; From Good to World-Class: Where Are You on the Contractor's Life Cycle?; Building Customer Satisfaction; and Previews of Construction Software.

The Ceilings & Interior Systems Construction Association (CISCA) is uniquely dedicated to serving the acoustical and specialty ceilings and interior finishes industry. CISCA provides market-driven solutions, including dynamic networking, quality education, accessible resources and expert technical guidelines to enhance the success and profitability of its membership. As a part of its educational programming, webinars are offered to the membership and are stored on its website. Some of the many topics in the archives include How to Get Paid; Change Order Management; Inventory Introduction; Proven Techniques for Improving Construction Productivity; Business-to-Business Negotiation Essentials; and Using Social Media to Sell in Construction.

## CONCLUSION

The opportunity to stay educated is certainly available within your trade association or through your industry partners. Whether you are the chief executive officer of a company and want to learn how to prepare your company for future changes in the economy, or are a professional development representative looking to network with your peers, reacquaint yourself with what your trade association or industry partners have to offer. If you or your company is not currently involved in a trade association, ask your fellow industry associates which they recommend and then contact the association to learn what educational opportunities it has to offer. ■

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# Executive Coaching and Mentoring Tools for Construction Talent

By Tim Tokarczyk and Stefanie Putter

#3

Today's construction leaders are facing greater uncertainty and more radical transformation than at any other point in our history. The world we live in has become increasingly complex and interconnected. The amount of information we are required to process is often overwhelming. Our attention continually is drawn to short-term firefighting, rather than longer-term strategic thinking. Competition is increasing, forcing us to rethink the way we do things and explore opportunities for competitive advantage. Furthermore, most experts anticipate an increasing labor shortage that will create a severe lack of skilled talent for many construction organizations.

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There are myriad challenges facing the industry, and yet there are great opportunities available as well. Technology is transforming the way we do business, and new innovations will continue to bring exciting change to the industry. Firms that think more strategically will be able to capture opportunities lost on less sophisticated clients. Organizations that attract and develop talent better than their competitors will find ample opportunities to add the highest performers to their teams. To succeed in this challenging environment, companies will need to develop effective leaders throughout their organization, not just at the top. Great leadership will help organizations navigate through obstacles and achieve key goals and objectives.

Some of the most effective ways to build self-awareness, increase performance, develop leadership skills and improve effectiveness are through executive coaching and mentoring. Executive coaching is increasingly being used by top leaders to help improve their ability to lead. Mentoring is likewise an essential tool for leadership development. By partnering a more experienced, internal resource with a less experienced one, both reap benefits and will grow and develop as a result of that relationship.

## EXECUTIVE COACHING

Executive coaching is a one-on-one collaborative relationship between an external coach and a coachee that focuses on shifting a coachee's knowledge and behavior. Because executive coaching is an individualized process, the specific benefits will somewhat depend on the goals set by the coachee. However, there are several benefits that all those who engage in executive coaching can expect. First, executive coaching helps increase self-awareness. Executive coaches provide an outside perspective — they have no personal agenda, other than to help the coachee develop and meet the agreed-upon goals. Executive coaches offer feedback, ask key questions and help the coachee take a closer look at his or her strengths and weaknesses. As leaders, we all have blind spots — areas we need to develop, but of which we are unaware. Executive coaching can help remove those blind spots and help leaders obtain a more well-rounded and accurate view of their current level of performance.

Executive coaching also helps with accountability. Many leaders in the construction industry struggle with this important leadership skill. Accountability can be a challenge due to busy schedules, tight deadlines and the constant pulling of attention to short-term firefighting. Leaders set goals for themselves in good faith, but the constant chaos of everyday work can prevent them from following through on objectives. Executive coaches can help with accountability. Working with the coachees, they will set specific goals with clear timelines. If the leader does not follow through, the executive coach will follow up by discussing obstacles that got in the way and help the individual focus the required attention to see the goal through to completion.

Another common benefit of executive coaching is the insight that coaches can provide. The executive coach brings an outside perspective and offers an objective viewpoint that can be essential for leaders to hear. It is a common belief that the higher up you go in an organization, the less likely it is you will receive real, honest feedback. Executive coaches can provide alternative viewpoints and ask questions that many internal employees would be uncomfortable asking. Many coaches have expressed that this was one of the keys to their coaching experience.

In recent years, executive coaching has become more and more accepted as an essential leadership development tool. Many leaders throughout the construction industry, especially at the senior executive level, have found coaching to be an effective means of developing themselves and their ability to lead others.

## MENTORING

Although executive coaching is an effective external tool for leadership development, there are also ways to leverage the internal resources of your organization to develop better leaders. One of the best methods to achieve this is through mentoring. Mentoring is a relationship between an experienced person and someone less experienced for the purpose of giving advice and support. Many organizations today are moving toward more structured, formal mentoring programs. While informal mentoring is beneficial, formal mentoring programs provide the framework and process needed to maximize the potential of this relationship. In formal programs, less experienced employees are paired with more experienced employees for a specific duration (typically six months to a year). The mentoring relationship focuses on an investment by more senior employees in the development of less experienced workers. While the emphasis of this relationship is to develop the mentees, the mentors themselves greatly benefit as well.

To create an effective mentoring program, the selection of mentors is crucial. The best mentors will have the following characteristics:

- Seniority
- Vast knowledge of the organization
- Interest in developing others
- Alignment with organizational values
- Extensive experience
- Respect in the organization
- Willingness to devote the required amount of time to mentor

Organizations with less effective mentoring programs often make the mistake of assigning mentors without considering the above characteristics. Many companies that take this route wind up with unmotivated, confused mentors who are unable to develop their mentees effectively. This is one of the main reasons that mentoring programs fail. To avoid this common pitfall, organizations need to take care selecting the best mentors.

Similarly, not every junior employee makes a good mentee candidate. Some of the essential characteristics for mentees, who are high potentials, new employees or first-time supervisors, include:

- Desire to advance
- Strong work ethic
- Openness to learn
- Willingness to make changes and take advice

Mentees likewise need to be excited about the prospect of having a mentor in the organization. The goals of the mentoring program should be clear — mentors provide guidance and help mentees speed up their development. Mentors should not be assigned to "fix" or "save" an employee. In organizations that have gone this route, having a mentor is seen as a negative and an indicator to the rest of the organization that the employee is "broken." The best mentoring programs are focused on high potentials or those new to the organization or role. Mentoring is about helping less experienced employees more quickly develop and achieve their full potential in the organization.

Successful mentoring conversations are structured around the individual development needs of the mentees. As such, most conversations will focus on cultural fit or strategic fit (or both). One of the biggest reasons why employees struggle is due to a misalignment on cultural issues. Mentoring can help employees more quickly learn how to operate and act in the unique culture of the organization. This is especially helpful for new employees, who see their own development quickened by having a mentor with whom to discuss the organization's culture. This is why mentors must understand and embody their organizational culture, so they can impart their cultural knowledge to their mentees.

**To prepare your company not just for today and tomorrow, but also for the long term, leadership development will be essential.**

The second key conversation is around strategic fit, which is often focused on the day-to-day tasks that an individual is expected to perform. For example, does performance meet or exceed the required level for employees to be a strategic resource for the organization? Many mentees are performing at a high level, but they have not yet reached their peak level of performance. Pairing mentees with an experienced mentor can help speed up their development so they can more effectively fit into the overall strategy of the organization.

## CONCLUSION

Throughout the construction industry, leaders are struggling with a multitude of challenges — increased competition, changing technologies, difficult clients and timelines, personnel issues and more. In such turbulent times, it is easy to put our heads down and focus only on the immediate issues in front of us. Great leaders, however, recognize that it is during the difficult times when it is most important to pull back from the daily tasks and think strategically about the organization. To prepare your company not just for today and tomorrow, but also for the long term, leadership development will be essential. There are many avenues to pursue for developing your leaders, such as training, consulting, attending conferences, reading, etc. Organizations also should consider executive coaching (having an external resource working one-on-one with key leaders) and mentoring (pairing up internal experienced employees with less experienced ones) as leader development tools. The organizations that invest the necessary time and resources in developing their people will reap the benefits of having a higher-performing, more aligned and fulfilled workforce. In such challenging times, strong talent can often be the difference between those companies that go out of business and those that endure. ■

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# *You Kept Your Employees During the Great Recession: Now You Owe Them?*

***By Jeremy Brown and Sal DiFonzo***

#4

"Employees are our most important asset." Companies often recite this cliché, often without supporting action. That is, until their most important asset becomes their competitor's most important asset.

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During the worst economic recession since World War II, many construction firms scraped together any available resources possible to provide pay and benefits to valued employees. Although some were forced to reduce pay, decrease benefits and cut back on learning and development, most firm owners took substantial hits to their equity as a trade-off to keep talented employees from suffering loss of jobs and benefits as well as the security and esteem of holding a steady position. Owners making these difficult decisions justified the cost with the need to have qualified staff when the markets picked back up.

Fast-forward to the current economic recovery, and many construction firm owners and senior leaders are now frustrated to find that returns on their significant investments to keep employees during the recession are dwindling. The market once again favors the supply side of construction labor in many parts of the country, and cornerstone employees whom employers kept during the recession are now jumping ship. The investments made during the recession turn into hard feelings when those key employees walk out the door to sign on with a competitor.

Post-recession, labor supply-demand dynamics and the associated psychology of employees differ drastically from the previous two to six years. Despite the scarce times and meager pay increases during that time, employees in the construction industry were grateful to simply have jobs, as nearly 5 million construction-related workers were laid off from 2007–2011, and the industry suffered a net loss of 2 million jobs. Employees who were aware of the overall economic situation appreciated the sacrifices that owners made to keep the lights on and payroll checks cut.

Reading about financial distress in the news, seeing foreclosure signs go up and talking to one's neighbor about his or her job loss, the average construction employee knew the economy was bad. What most employees could not quantify, however, was how much worse the situation was getting. Sure, the construction employees hearing the news knew that their pay was stagnant, but they did not see the other side and realize that executive and senior manager pay decreased 20% on average between 2008 and 2012.[1] They often did not realize the amount of equity evaporating from their company's balance sheet.

In the couple of years following the recession, FMI consultants have traveled around the country working with contractors on compensation and rewards plans and have heard one very consistent message: Qualified field and project managers are the most challenging positions to recruit and retain. One of the main reasons for this is because when the markets pick up and more opportunities emerge, it is nearly impossible for high-potential employees in these positions to recall anything but their personal experiences. This is especially true, considering their average base pay increased less than inflation did during and after the recession. Specifically, project manager, superintendent and foremen pay increased annually at 1.4%, 1.3% and 1.0% from 2008 to 2012.[2] Although average raises improved in 2012 to 2.9% for professional employees and are expected to be 3.0% in 2013, this will probably not be enough of a motivator by itself for those who passively or actively are searching for other opportunities.[3] This could explain why FMI's 2012 Annual Salary Increase survey showed one-third of the industry's workforce is pursuing other employment, while one-half is looking or considering other employment passively. We think of the latter group as the "shadow inventory" of the labor market; once the market slowly turns in its favor, it will be marketing itself and shifting employers rapidly. That means that either actively or passively, more than 80 percent of the workforce will be contemplating a shift in employers.

Memories of a terrible recession and gratitude for the employer for employment while the company was trying to make ends meet have now faded, and employees are unforgiving for stagnant merit increases over the past four to five years. Instead of asking themselves, "Will I have a job tomorrow?" as they did four years ago, they are now asking, "After working hard and helping keep the company afloat over the past four years, how could my

**Memories of a terrible recession and gratitude for the employer for employment while the company was trying to make ends meet have now faded, and employees are unforgiving for stagnant merit increases over the past four to five years.**

boss give me such dismal raises?" It is not taking much time for your employees quickly to go from passively thinking about a job change to actively looking or being placed on a project for a competitor.

Shocked by losses of key employees, as a company owner or senior manager, you look at the situation differently and ask, "After I was loyal to some of our employees and gave them stable employment during the recession, how could they betray me like this? They know we are about to win a large project where we had meaningful roles for them."

**As an employer, when discussions about money do arise, you need objective ground to stand on when talking about compensation.**

The discrepancy of employer and employee expectations post-recession has taken a toll on maintaining workforces and is creating large shifts in the construction job market. The positive news is that many key employee losses are avoidable with reasonable investment in retention and motivation strategies.

Construction Business Owner reported in its July 2012 issue that nearly one in five construction workers either retired or plan to retire from 2012 to 2014. Additionally, FMI's 2011 Talent Development Survey revealed that 76% of owners more than 50 years old plan to retire in the next 10 years. Compounded by less young talent coming into the construction workforce, these staggering statistics will intensify your challenges hiring and retaining key talent. Your most important asset's bargaining power in the coming years warrants sound and innovative strategies for recruiting, motivation and retention.

What do construction employers need to be thinking about when the demand and tight supply of the labor market is a disadvantage to them? Here are four proven strategies that can help you retain key talent during challenging times.

**Conduct annual base-salary benchmarking.** One of the most common excuses for leaving an employer, as given in exit interviews, is pay. Surprisingly, this employee claim is typically not complete or accurate. But what the departing employee does not want to tell you is that it was due to a real or perceived lack of mobility or career path, or often because of his or her manager. As an employer, you need objective ground to stand on when talking about compensation and when discussions about money arise. Going by what you have paid employees in the past, using unverified online resources or asking current or former employees what competition is paying will provide you an incomplete and often inaccurate picture of market pay. High pay does not guarantee low turnover, but determine if this is a contributing factor to employee flight. Additionally, while we do not advocate that money is the ultimate motivator, it is a large consideration when attracting talent and you will need to know your precise position in the market during the recruiting process.

**Design and implement short-term incentive plans tied to company and individual performance.** Construction employers pay, on average, 10% of their net income for bonuses to professional employees.[4] Many employers find that they do not incentivize the right performance, nor do they achieve an adequate return on this precious investment. Without fully understanding how to affect individual bonuses, employees do not change behavior to the extent that justifies this investment. FMI does not advocate increasing the dollar amount of bonuses; rather we would prefer to see bonuses distributed to those who drive your improved company performance. A structured incentive plan provides routine performance updates that drive performance. The incentive compensation plan should provide clearly defined measures with distinct bonus targets; arbitrary and discretionary plans are expensive and ineffective. Structured plans are also an effective recruiting tool. When one employer shows the candidate a structured incentive compensation plan versus another that says, "Trust us, we pay good bonuses" — the employee will choose the first option when all other factors are equal.

**Develop an individual development plan for each employee.** Individual development plans that are unique show employees how to progress and develop professionally and are necessary to create individual accountability. They also place accountability on the organization to support the employee in areas that leadership deems important enough to put on the employee's individual development plan. When employees request training or professional development, make them a part of the process to justify the dollar investment necessary and provide a solid business case. An annual development budget will provide the organization an investment strategy to develop the workforce, just as an equipment maintenance budget tracks wear and tear on equipment. A workforce development budget will quantify your strategic investment to keep "your most important assets" up-to-date and effective. An organization can buy or grow its talent, but it is usually more advantageous to grow leadership strength from within.

**An organization can buy or grow its talent, but it is usually more advantageous to grow leadership strength from within.**

**Conduct annual or semiannual performance evaluations.** Without providing an accountability structure for managers to give proactive employee feedback and provide educational opportunities, you leave a major component of employee development to the discretion of your middle management. Managers should have one-on-one meetings with their employees regularly, but at a minimum, a system of "forced interaction" is better than no system at all. Due to the inability to provide merit increases and bonuses during the downturn, we have seen several construction firms hold back or delay performance reviews altogether, a double punch to employees. While we realize that pay and bonus freezes are difficult and often necessary decisions, you and your leadership team have an obligation to discuss the business rationalization with your star talent in order to avoid concerns about company stability. Make them feel like they are part of the long-term solution as opposed to dead weight that deserves no feedback.

According to the National Bureau of Economic Research, the Great Recession ended in mid-2009, but the deficit of investment in employee motivation and development lingers through current times. It was a painful time for the construction industry, which entered the negative economic downturn later and is digging out slower than other industries. Unfortunately, for employers, competitive labor markets have become active again for many positions, without the commensurate return in revenue and profits to justify substantial increases in pay and benefits.

**A net of 2 million construction employees left the industry when unemployment approached 20%, and most simply are not coming back.**

Construction employers are now competing against other industries more than ever. A net of 2 million construction employees left the industry when unemployment approached 20%, and most simply are not coming back. Employees forgot their gratitude for companies that kept them during periods of austerity, and their former loyalty toward employers is trumped by the need for long-term viability and work satisfaction. Millennials witnessed a labor market catastrophe in construction and now are reluctant to join the industry. If you are an owner or senior leader of your construction firm, your ability to build a legacy that lasts beyond your lifetime and through unforeseen economic cycles and industry disruption hinges on the talent that you attract, retain and develop. As safety, quality and customer satisfaction determine your company's place in the market, the four talent strategies outlined above may ultimately determine your company's long-term fate. Your window of opportunity to "wait and see" before committing to employee retention and development strategies may be slowly closing, as the storms of turbulence and uncertainty turn into showers of opportunity for your most important assets. ■

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[1] FMI Executive Compensation Surveys, 2008–2012.

[2] Ibid.

[3] FMI's Annual Salary Increase Survey 2012.

[4] 2013 FMI Incentive Compensation Survey.

# *Information Technology's Impact on Businesses in Construction*

***By Christian Burger***

# #5

While the information technology solutions and platforms have changed frequently and significantly during the last two decades, the way in which contractors leverage this technology has adjusted more slowly. At that pace, one can identify some important lessons from the activity associated with selection, implementation, customizing and deployment. Following is a timeless top-10 keys to leverage of sorts that seem to be consistent irrespective of contractor type and size.

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**Leadership.** Leadership of information technology (IT) should come from the top of an organization … the very top. Too often, IT is led by an individual or department with the best of intentions but without the insight of the business strategy and direction of the firm. Today, primary resources like labor, equipment, subcontractors and technology must be in tight alignment with the business's direction and objectives.

In addition, an executive, also known as an executive sponsor, should be assigned to any significant IT initiative. This position is essential to a successful implementation. While the effort and time commitment is light, the value of his or her involvement comes from presence and messaging. When people in the organization see a top-tier executive committed to a new system and the requisite change, they are less likely to resist and more likly to contribute time. Finally, all significant implementations should have a project manager assigned to run "the job." This can be an actual project manager from the field or someone who can function as the project manager for the duration of the implementation. Too many initiatives begin without these roles in place, and the team has to scramble at the end of the planned implementation when the effort is off the rails.

**Requirements.** Before setting out on a search of a new system or improved service, a company should carefully document both its requirements as well as its criteria for making an information technology selection decision. The software bazaar is a confusing place with many competing and conflicting messages. Without clear requirements and criteria, the best pitch will more likely prevail over the better product or service. Cost is a standard criterion, but others, such as degree of fit, customer service, system architecture, company viability, reference calling results, flexibility and ease of use are other important considerations. Further, if requirements are too broad, they can be met by most vendors and products and therefore are of little use in narrowing the field. Often, an RFP is used to narrow the candidate field from three or four to two or three options. From there, software demonstrations and due diligence are used to narrow the field to a primary candidate.

**Deployment.** The enthusiasm companies have for their new systems is understandable, but can sometimes lead to hasty deployments, before the solution is really ready. Builders would not let customers take occupancy until the building is ready and a certificate of occupancy is issued. The same care should be taken with any new technology solutions. The steps for deployment are design, testing and training. Sometimes a pilot process is even advisable. In the interest of speed or intended cost savings, these steps frequently are shortchanged to the detriment of the implementation.

**Design.** Rethinking existing processes and considering possible improvements in light of new solutions is the purpose of the design phase. Companies spend a lot of money implementing old processes on top of new systems, usually with unfortunate results. Thorough testing of the new solution before it is rolled out is also vital, as this process usually identifies problems in either design or setup. Iterative rounds of testing until the system behaves predictably is paramount to a good implementation. Finally, with some solution deployments, it can be advisable to run a pilot of the new system with a small group of users to see how the deployment goes before rolling out to the entire organization. This minimizes risk considerably and only slows deployment slightly. Modest increases in initial costs pave the way to substantial, longer-term savings.

**Companies spend a lot of money implementing old processes on top of new systems, usually with unfortunate results.**

**Process Change.** There is a tendency among companies or, maybe more precisely, some people within companies to hold on to old or legacy processes during an implementation. Those individuals fear change and all that comes with it. They may feel their positions are threatened. During a large-scale implementation of a new system, all processes should be open to debate. In most existing processes, 80% of the methods are a result of "the way we have always done it" or "that is the way the current system makes us do it." Neither is a particularly defensible reason. Also, companies tend to try and bring about change departmentally rather than by function or broader process. Such compartmentalized actions seldom maximize the potential improvements that can be made with a broader view. Rather than just looking at purchasing, a company should look at the entire procurement process, from pay cycle to requisitions, RFQs, POs, change orders, receiving tickets and invoices for example. This can lead to a far more efficient enterprisewide process and better use of new systems.

The people who should be most engaged with the implementation should be those most open to change and willing to challenge the status quo. Those who would otherwise resist can be brought along later as the process shift is nearing completion. Resistors are not reliable in providing the kind of innovation that is necessary during an implementation. Processes should be examined with a more macro view as well as new systems that are being deployed.

**Due Diligence.** Once a preliminary decision is made to go with a particular software or hardware product, make sure to conduct proper due diligence before signing the license agreement. There are many indications that your decision is either largely right or horribly wrong, and they are evident during this period. The amount of due diligence can vary by the size of the investment, degree of risk and impact the solution is likely to have on the organization. Calling references, reviewing the license agreement and ensuring the demonstrations were thorough are a good start. Some companies will even visit other organizations similar to their own that are currently using the product under consideration to see it in use and get a sense of how it really works. Mitigate risk by reviewing the license agreement, support agreement and services contract. These steps are important, particularly for a solution that the company will have to live with for a number of years.

**Contractors sometimes have a bad habit of letting the "luddites," rather than the company's leaders, drive strategy.**

**The Vocal Minority.** Contractors sometimes have a bad habit of letting the "luddites," rather than the company's leaders, drive strategy. "Oh, we can't do it that way, they will never go along with it" is a common refrain. Companies need to move faster in their adoption than the lower quartile. They should always work to bring them along eventually, but some will refuse at all costs, and that refusal may create a different decision. If the company's user community was stretched out on a continuum of technophobes to thought leaders, it is commonly a bell curve with the average users being the most common and the thought leaders being smaller in number but potentially more influential. When you think about technology and plan for the future, look carefully at the voices you are listening to.

**Build/Buy.** The line between buying software solutions and building your own used to be rather stark. Companies either bought solutions from the market and implemented them largely as is, or they built their own system. Today, the choices are less clear-cut. It is truly rare that companies opt to build their own solutions anymore. Instead, they will buy a solution of varying flexibility, implement it within the boundaries of its functionality, and then use various tools to enhance or extend the product to meet specific organizational requirements. This is an optimal strategy, and it allows a company to take advantage of products that are commercially available, economical and supported. It then allows the same company to invest in making enhancements for those functions that are most important and/or valuable … perhaps even strategic.

**Spreadsheets and email.** Back in the old days (read "yesterday"), contractors had an overdependence on spreadsheets and email. Nearly every administrative function required one or both of these applications. They were the duct tape of the systems world. As more and more specialized applications have been developed, the demand for spreadsheet templates and email for mainstream processing should be diminishing. If you find your organization is still highly dependent on one or both, consider looking carefully for a better, more comprehensive solution in the marketplace. Spreadsheets have their place, but for data management and functional processing, there are hazards with which we are all familiar. Dependence on email will lessen as well, as workflow functions native to ECM, PM and ERP solutions come online.

**Structure IT.** The IT department, large or small, should aim for "where the puck is going, not where it is," to borrow Wayne Gretzky's hockey expression. IT departments that are not evolving tend to keep tools and technology in place that suit them rather than advancing to keep pace with the market. Progressive IT departments are outsourcing more maintenance functions and staffing carefully around systems software and users and less on computing infrastructure (hardware). This frees up personnel to spend more time aligning solutions with the users and business objectives. This has become more of a trend as many computer maintenance functions have become commodities in the market and can be outsourced more economically than previously was the case.

With the emergence of cloud computing, BIM and ECM, along with mobile solutions for the field, the degree of information technological change in the construction marketplace is rapid. Contractors are using technology to differentiate themselves from their competitors and to attract a talented workforce. But the availability of technology in the market does not bring value to your firm, nor does the ownership of it. It is not until solutions, well chosen and carefully deployed, begin to deliver upon their promise that true value is created and true differentiation is achieved. ■

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# If You Want World-Class Operations, Focus on the Foreman

**By Ethan Cowles**

## #6

What sets world-class contractors apart from average and struggling contractors? World-class contractors all have incredible talent at the foreman level. That is not to say company leadership, business strategy, project management, etc., are not important, but operations without great foremen always struggle to achieve anything but mediocrity.

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With this in mind, there are a few universal truths that foremen and their companies need to remember.

### 1. FOREMEN MUST KNOW THEIR TRADE.

Everything else is built upon this foundation. A foreman must know how to install work (or supervise installation) correctly the first time. There is no replacement for experience and time in the trade. Foremen should have all the necessary training and experience before being placed in a position of leadership. Only experienced tradespeople can be expected to plan projects, prevent rework and keep the crews productive.

### 2. THE ENTIRE ORGANIZATION MUST FOCUS ON MAKING THE FOREMAN SUCCESSFUL.

Whether documented or not, world-class contractors operate with an inverted organizational chart, with foremen at the top (see Exhibit 1). Superintendents, project managers, shop/safety/prefab and executives exist to make sure the foreman and the field have what they need, when they need it. This kind of thinking/acting focuses everyone on the most important internal customers — the foremen. After all, foremen are the ones who manage production, productivity, quality, safety, communication, morale, craft training and site logistics. They personally know and care for the individual tradespeople working for them.

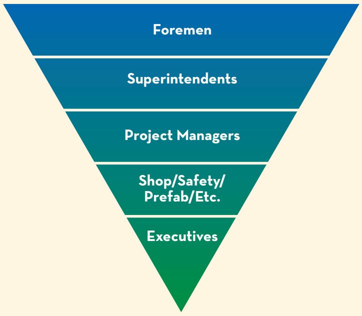



Exhibit 1
**Upside-down Organizational Chart**

### 3. FOREMEN MUST CARE ABOUT PERFORMANCE.

The minimum requirement to be a foreman is that he or she has to care. The tactical skills needed to be a foreman, such as planning site logistics, overall project planning, communicating internally and externally, motivating and inspiring crews, filling out paperwork and such, can all be taught as long as the foreman cares to learn and apply them. If a foreman does not care or seems unwilling to respond thoughtfully in tough situations, he or she is not a foreman after all. An apathetic "apple" at the foreman level will quickly "spoil the barrel."

### 4. FOREMEN MUST BE INVOLVED IN THE PRE-JOB PLANNING PROCESS.

Getting foremen involved in project planning prior to mobilization has a positive impact on productivity, profitability and overall project success. It is what allows them to be proactive rather than reactive; become project managers rather than project witnesses.

Most companies only have a foreman come into the office to preplan a project when there is a gap between his or her last project and when the next one begins. When early involvement happens, not only does the project start well but it also finishes well, beating the labor budgets and experiencing margin gains. The foreman, project manager and senior management all like the results. So if everyone knows that foreman involvement in preplanning is a best practice, why is it that most contractors do not make it mandatory?

The bottom line is that how companies prepare to start a project is inside their influence and control. Average contractors sometimes do things right by accident. The best contractors make foreman preplanning mandatory and have a purposeful approach to the project.

### Involving Foremen in Pre-job Planning

Armed with a preliminary scope of work, budget, schedule and set of plans, a foreman should conduct a site visit. While on-site, he or she should assess items such as:

- Truck and delivery access
- Traffic patterns, school zones, foot traffic and neighborhood particulars
- Utility locations, locates and overhead restrictions
- Parking location and availability

## CASE STUDIES

**Case 1**

A civil contractor finished phase one of a development project. The crews were slightly able to beat most productivity expectations and, overall, the project finished with moderate margin gains; it was a successful project!

While phase one was wrapping up, the customer let out the second phase for bidding. The estimator, knowing the market was getting ultracompetitive, felt the company would have to be more productive on the second phase if it wanted to win the project. Without consulting with the field (or anyone else), the estimator doubled the productivity on certain scopes of work, thus lowering the cost of labor on paper.

Sure enough, the company won the project. When the estimator handed over the project budget to the field, they immediately and understandably objected to the estimator's assumptions. "Why did you take so many hours out of the budget? Why did you think we only needed half the time — we barely beat the last budget?"

The estimator told them, "I did my job — I got us the project. You are going to have to do your part now to hit the budget. If I didn't assume an increase in productivity, we would not have gotten the job."

***Results***

The field felt cheated and felt no obligation to perform to false expectations. They just worked as hard as they could and let what happened happen. The project ended up losing money and did not even cover its direct costs. Overall, this lowered morale and drove a wedge of distrust between the office and the field. The field managers wondered why they were going to be held accountable for obvious estimating errors.

**Case 2**

A mechanical contractor was feverishly putting together its final numbers for a bid. Minutes before the deadline, it successfully submitted the numbers. Soon the company was notified that it had won the job ... with a lot of money left on the table. Instantly, the company began to suspect it missed something. As it reviewed the data, the contractor found a row of numbers were left out of the spreadsheet's formula sum. About 15% of the project's labor, equipment and material was not included in the final numbers.

The company decided to go forward with the project anyway. Knowing what it had missed, the company added back the needed budget dollars and hours before it handed the project over to the field. "Look, we had an estimating bust on this project. We added the needed dollars and hours into the budget once we found the mistake — we want to hold you accountable for a realistic budget. We know that we will be losing money on this project if we cannot make up for the bust with increased productivity. "

***Results***

The field staff knew the labor budget given to them was "real" and that they had an opportunity to help the company "win" in a tough situation. With the support, hard work and some great ideas from the field, the project ended up almost breaking even. Compared with the original budgeted loss, this was seen as a huge victory!

This time the field knew what it was going to be held accountable for. It also knew the office would be held accountable for what it could and should be held accountable for. Overall, morale and trust were built up rather than destroyed through the experience.

- Portable toilet locations and numbers
- Location and size of laydown yards
- Status of project — is it/will it be ready to mobilize, etc.

During and/or after the site visit, a foreman should:

- Create a list of tools and equipment
- Build the first short-interval plan — what is needed to be productive day one, hour one
- Provide input/confirmation on budget and schedule
- Develop a list of any questions or concerns that need to be answered prior to mobilization

### 5. FOREMEN MUST HAVE BUY-IN AND TRUST IN THE PROJECT LABOR BUDGET.

It should be everyone's intent to have a labor budget that is realistic and achievable. Prior to beginning a scope of work, the foreman needs to spend enough time thinking about the project and the budget to make sure he or she believes it is achievable. Changes, if needed, should be made prior to work beginning. Without buy-in and an understanding of the budget, foremen often allow themselves to become project witnesses instead of project managers, resulting in a laissez-faire approach to the project.

### 6. FOREMEN MUST KNOW THE "SCORE" ON THE PROJECT SCOREBOARD, AT LEAST WEEKLY.

If the foreman does not know where a project stands or how it is performing, neither does anyone else. Foremen and their crews need to know how they are performing compared to the budget on a weekly basis. The easiest and most important scoreboard to show foremen is an earned value graph. This graph requires a project to have cost codes, budgeted hours, budgeted number of units, actual hours used to date and actual units installed. Exhibit 2 is an example of an earned value report. From this, it is easy to see which cost codes have the most risk (the ones with the most budgeted hours) and whether or not we are ahead or behind the budget.

Scoreboard information that needs to be quickly understood by the foremen and the field include:

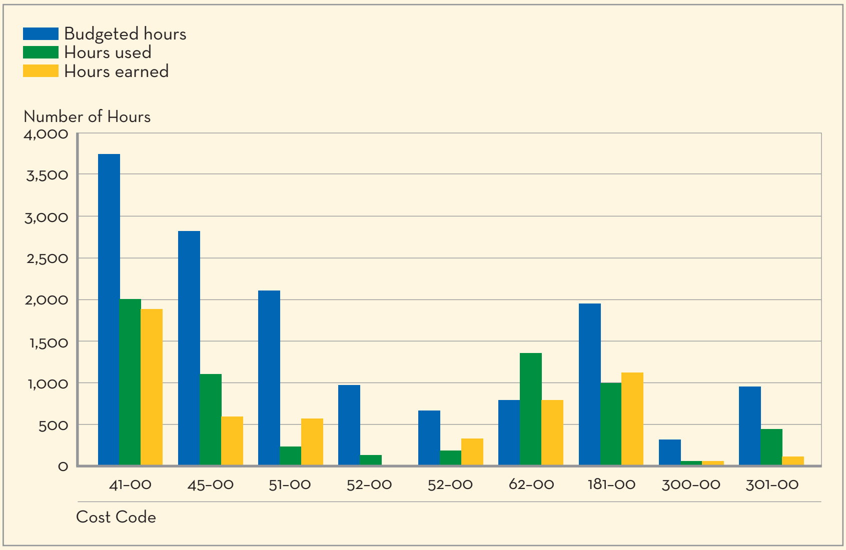
- **Graphs, charts, pictures.** Graphical information is easier and faster to process and understand.
- **Up-to-date information and numbers.** The data cannot be old or outdated.
- **Consistent distribution** (every Monday, first of every month, etc.) The information must be given to the field on a regular basis, not just whenever the office feels like giving it.
- **Color documentation.** Color makes information seem more important.
- **15-second rule.** Anyone looking at the information should be able to understand what it is saying in 15 seconds or less.
- **Simplicity.** Resist the urge to build a chart that throws everything in but the kitchen sink. Projections, averages, trends should be left off in the interest of absolute clarity.

Exhibit 2

**Earned Value Report**

From budget
From time cards
Automatically calculated

| Cost Code | Budgeted Hours | Hours Used | Budgeted Units | Units Installed | Percent Complete | Hours Earned |
|---|---|---|---|---|---|---|
| 41-00 | 3,741 | 2,013 | 1,500 | 758 | 50.5% | 1,890 |
| 45-00 | 2,828 | 1,112 | 1,200 | 256 | 21.3% | 603 |
| 51-00 | 2,110 | 232 | 800 | 215 | 26.9% | 567 |
| 52-00 | 976 | 143 | 500 | 0 | 0.0% | 0 |
| 52-00 | 667 | 201 | 200 | 103 | 51.5% | 344 |
| 62-00 | 801 | 1,361 | 700 | 700 | 100.0% | 801 |
| 181-00 | 1,950 | 988 | 690 | 401 | 58.1% | 1,133 |
| 300-00 | 320 | 56 | 740 | 162 | 21.9% | 70 |
| 301-00 | 960 | 453 | 300 | 41 | 13.7% | 131 |
| Total Job | **14,353** | 6,559 | 6,630 | 2,636 | 39.8% | 5,535 |




### 7. FOREMEN, GIVEN A SPECIFIC SCOPE OF WORK, NEED TO BE ABLE TO CREATE A PLAN AND A SHOPPING LIST FOR IT.

If a foreman's supervision skills lies in ensuring installation of work is correct the first time, then whatever keeps him or her from doing that better be worthwhile, like planning and communicating the plan to others.

As long as foremen know what scope of work to plan for (usually a discussion between GC/customer, project manager and foreman), they must be able to document what will be needed (manpower, tools/equipment, materials, information, etc.) and when it will be needed. Once the shopping list has been created, two things happen: 1) the foreman can go back to installing work, and 2) the organization (PMs, superintendents, purchasing and others) can do the shopping — getting what the foreman needs, on time.

### 8. FOREMEN, ON ANY SPECIFIC DAY, NEED TO BE ABLE TO SET PRODUCTION GOALS WITH A 50%/50% CHANCE OF BEING ACHIEVED.

Given the jobsite conditions, who showed up in the morning, the individual skills of those people, where the material is located, if the area is ready for them, what scopes of work will be worked on, etc., a foreman should be able to talk with his crews and come up with a written production goal.

Goals that are too easy to achieve are not motivating. They end up being unrealistic in a competitive environment, like kid's T-ball — everyone gets a trophy and every team makes the playoffs. Often, once the goal has been achieved for the day, workers drop their bags and begin to prematurely clean up rather than strive for additional production.

Goals that are too difficult to achieve (more prevalent in construction) tend to be demotivating after a few days. If a foreman continually sets goals that cannot be met, workers soon begin to doubt the foreman's capability to plan rather than their own performances.

Setting challenging yet achievable goals WITH the crews builds buy-in and accountability. Keep in mind, the real value of setting daily goals is not the goal itself, but the discussions at the end of the day. "What helped us beat the goal today? What unexpected things slowed us down today? Can we do/avoid that tomorrow?" helps to build awareness and knowledge for everyone. Five minutes a day discussing what affects our productivity and by how much quickly develops the "gut instincts" of even the greenest tradesperson.

**Five minutes a day discussing what affects our productivity and by how much quickly develops the "gut instincts" of even the greenest tradesperson.**

### 9. FOREMEN MUST RESPECT THE PEOPLE WORKING FOR THEM.

The best foremen have tradespeople who would "take a bullet" for them. That does not come from being a pushover or from yelling and screaming — it comes from mutual respect. Deep down, even the toughest construction workers are still human beings who like to know their efforts and skills are appreciated. People perform better when competent leaders recognize and respect what those around them bring to the table.

These nine universal truths, consistently employed, will ensure that your company has world-class operations and will prove profitable again and again. ■

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# Capitalize on Market Information

*By Kevin Haynes*

#7

The importance of market information and data has always been significant. However, when times are difficult, such as the Great Recession when total construction spending in the U.S. decreased by roughly 35%, market research becomes even more important.

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Most successful companies in the design and construction industry are constantly monitoring the market and staying abreast of the most recent trends. They try to best prepare for what the future will look like in the market and how the company will compete. The opposite approach is a company that has been focused relentlessly on surviving and potentially ignoring issues that could cripple its chances for long-term success.

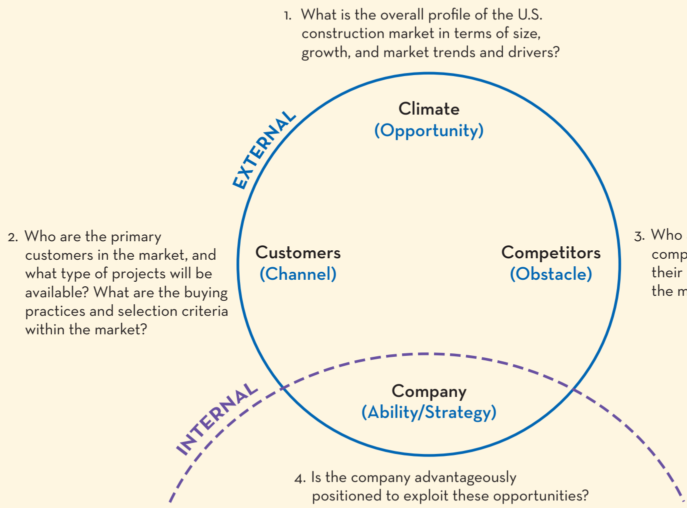
One of the lessons we have learned at FMI is that market research must be placed in a proper strategic framework to guide your thinking and ultimately increase your ability to make the right decisions for your company's future success. Without this framework, it is simply a collection of data points without a unified purpose. As seen in Exhibit 1, the strategic framework we suggest to our clients for implementation is the 4-C approach of climate, customers, competitors and company.

Below is a brief overview of each of these areas and what is typically involved in the research process. At the conclusion of the process, this approach merges the external market analysis with the company's internal value drivers and core competencies to help ensure the business is positioned to succeed.

## CLIMATE

Over the years, FMI has developed hundreds of construction put in place forecasts at the national, state and local levels to assist clients in gaining an appreciation for a market's size and growth potential. Climate research tries to

Exhibit 1
**4-C Approach**




uncover what the opportunity or demand is for a company's services. This involves a collection of historical and projected construction spending figures, in terms of size and growth, as well as an analysis of the underlying market trends and drivers that most influence related spending. Typically, these market factors fall into four primary areas, including political (e.g., legislation), economic (e.g., employment), sociocultural (e.g., population) and technological (e.g., prefabrication/modularization). Once these factors have been identified, it often can be beneficial to rank them based on two criteria, which include: 1) the likelihood to occur and 2) the potential impact. By completing this step, you can prioritize those factors that will have the greatest effect on your company's business.

> **Most successful companies in the design and construction industry are constantly monitoring the market and staying abreast of the most recent trends.**

## CUSTOMERS

FMI often works with customers that are focused on entering a new market. This may be a vertical market (e.g., health care) or a geographic market (e.g., Texas). They will ask us to provide them with a climate analysis including forecast construction spending, but overlook a huge component, which is the customer. In general, we have found that business development skill and competency are more important now than ever. Customer research begins by identifying who are the leading active buyers in a particular market and what the particular needs of the company are in terms of capital expenditure plans. For example, is the company looking to expand the business by constructing new buildings, or does it prefer to renovate an existing structure? Either case has direct implications for how you may approach the customer. In addition to identifying the customers, you will want to know about their procurement process. Procurement involves an analysis of the delivery (e.g., design-bid-build, design-build, construction management) and contracting (e.g., open, negotiated, prequalified) methods, in addition to key selection criteria, including price, experience, project team, resources, etc. Finally, a customer analysis provides identification of the primary decision-makers within an organization, which may include those in facilities (e.g., construction/engineering), building end user and management (e.g., president, CEO).

### COMPETITORS

Perhaps the most difficult component of this research approach is the competitor analysis, due to the sensitivity of the information involved. Marketing research helps in ascertaining and understanding competitor information, such as their identity, customer focus, scale of operations and market positioning. By speaking with owners in the market, competitive research can allow you to gain an appreciation for a company's perceived strengths and weaknesses, resource advantages, personnel capabilities, etc. This helps in surviving and, in certain cases, even exploiting the competition. Moreover, with market research, you can also better understand the underserved segments and customer needs that have not been met. There may be a situation where your company has skill and experience that can be leveraged.

**With market research, you can also better understand the underserved segments and customer needs that have not been met. There may be a situation where your company has skill and experience that can be leveraged.**

### COMPANY

Finally, once the external analysis has been completed, which includes the climate, customer and competitor research, an internal analysis is conducted to examine the company and determine whether it is advantageously positioned and structured appropriately to exploit these opportunities. This analysis involves looking at the company's internal capabilities (e.g., work acquisition practices, business development behaviors, project execution and control systems, management information systems, safety and risk management practices and financial management practices).

Market research will help to determine the underlying forces and trends that are driving your customers, your competitors and your business. In addition, analysis of the data and information can allow you to prepare for shifts in the market before they happen and increase your chances for success. With an understanding of the climate, customers, competitors and the company, this research can equip management with the power to make better business decisions, increase revenue and maximize profit. ■

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# *The Power of Collaboration in Design and Construction*

#8

*By Sabine Hoover*

During the last decade, the evolution of design and construction functions has taken a leap forward with the transition from electronic drafting to high-resolution digital modeling (also known as Building Information Modeling or BIM). Ubiquitous digital connectivity, cloud computing and "big data" are some of the evolving drivers that are responsible for the current melding of engineering, architecture, fabrication, construction and other related disciplines, transforming the way industry stakeholders collaborate with each other.

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The embryonic phase of BIM is already revolutionizing project delivery. Virtual design and construction now allows project teams to build a structure twice — once virtually and once physically. Design activities have been integrated horizontally across disciplines, while construction activities are integrated vertically through distinct supply chain stages. The demonstrated results include cost and time savings plus enhanced project quality and improved project safety.

Anthony Fieldman, president of RAFT Architects, states, "Today's digital era demands an integrated approach to create and manage parametric processes (economics, planning, design and engineering) that directly feed and, in fact, physically control outputs (fabrication and construction). In other words, cross-disciplinary thinking is an emerging prerequisite to success."

The business structures that support this type of interdisciplinary thinking and virtual collaboration are much different than yesterday's siloed approaches. Thomas Z. Scarangello, chairman and CEO of leading international engineering firm Thornton Tomasetti, explains, "The tools of collaboration, such as BIM, 4D and 5D data utilization, cloud project hosting/delivery, etc., have made the 'virtual project team' a reality. We have reinvented the master builder's brain in a virtual environment and it is completely turning around the siloed project team environment that delivery tools like CAD fostered for more than 25 years. This kind of 'in-sourcing' allows us to take full advantage of the diverse talents of our global workforce, not just for marketplace and cost diversity, but so every project can benefit from a creative and technical worldview as well as a 24/7 workforce."

Technology has and continues to play a vital role in this trend toward virtual knowledge sharing and cross-disciplinary thinking. Although the construction industry still lags other industries in technology adoption (e.g., the manufacturing industry invests four times more in digital tools compared to the construction industry), things are progressing. A recent McGraw-Hill survey found that BIM adoption rates by architects and contractors are currently more than 70% in the U.S., compared to 28% in 2007.

Combined with other communication tools and cloud technologies, BIM establishes a common platform where people and businesses can instantaneously communicate and share data, tools and information on a global scale. Not surprisingly, these technologies are transforming the way project stakeholders interact with each other, which is leading to new delivery methods and collaborative partnerships.

## COLLABORATION: GETTING EVERYONE ONBOARD EARLY

Integrated Project Delivery (IPD) is one such concept, which, according to the American Institute of Architects, "leverages early contributions of knowledge and expertise through the utilization of new technologies, allowing all team members to realize their highest potential while expanding the value they provide throughout the project life cycle." Put simply, IPD fulfills large project owners' persistent demands for more synergy and transparency among team members by encouraging greater collaboration and integration among stakeholders — from project concept to completion. This is a major departure from the linear hard-bid contract, traditionally driven by the owner spec.

**Although the construction industry still lags other industries in technology adoption, things are progressing.**

The fact that BIM and IPD are gaining ground in the design and construction industry is part of a larger trend toward "cross-company" integration, which is further breaking down adversarial, silo thinking that once dominated the field. Traditional industry business models are being tweaked to accommodate customers' specific needs, and in this kind of collaborative scenario, all stakeholders now work together toward a common goal or purpose. Brian Stieritz, senior vice president and director of the

Transportation Design-Build Group at CH2MHill, adds, "We've learned that having everyone at the table when decisions are being made is critical. If it's design-build or some other form of integrated project delivery, we all have a stake in it."

One of the goals of more collaboration in design and construction is to get everyone who will work on or contribute to the project onboard earlier. Richard Chan, manager, construction process improvement, Union Gas Limited, explains that it pays to bring contractors in earlier in the process, for example, to look at constructability and whether or not there is room to work in a given area.

Large utilities and industrial owners in particular recognize the benefits of increasing collaboration, because they have continuing construction needs and often large, complex projects that affect many constituencies. Alliances and partnerships help make construction programs more manageable, and IPD helps to create win-win solutions by driving out the cost of conflict and taking advantage of the expertise each party brings to the table — an advantage that is particularly crucial when projects fall into the mega range.

## LAYING A SOLID FOUNDATION

Combined with other communication tools and cloud technologies, BIM and IPD lay the foundation for a common platform where people and businesses can instantaneously communicate and share data, tools and information on a global scale. Most importantly, this digital ubiquity redefines relationships among industry stakeholders and gives everyone the opportunity to share wide-ranging knowledge and cross-disciplinary thinking.

**Large utilities and industrial owners in particular recognize the benefits of increasing collaboration, because they have continuing construction needs and often large, complex projects that affect many constituencies.**

Charles Thomsen, a member of FMI's board of directors, notes, "IPD is just one strategy for pulling technical and cost knowledge from subcontractors and manufacturers into design. Design assist, BIM, PMIS, rotation and bridging also are effective strategies." Although IPD has been touted as the next big thing in construction delivery, it is clear that it is just one more instrument in the construction delivery toolbox. Nonetheless, it is an important tool not just for building complex projects, but also as a philosophy or a target to shoot for in the evolutionary process of improving construction project delivery. While it may take some time for IPD to catch on at a larger scale, the idea has begun to influence how owners look at project delivery, which may make many project delivery methods a little more like IPD if not true IPD.

Ultimately, designers, engineers, contractors and other related project stakeholders, as well as owners, must become more informed on the needs of those they are working with and seek innovative means to find non-zero-sum solutions in a world that is increasingly complex and interrelated.

New business models may emerge in which the traditional builder and fabrication models are fused into one, for example, resulting in higher-level turnkey project delivery models with teams of skilled professionals to design, fabricate, assemble on-site and even operate facilities. Winners will rebuild, retool and refit their companies for a new game and drive continuous improvement in productivity and profitability, raising the industry to new levels. ■

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# Marketing in a Social Media Age

**By Sarah Avallone**

# #9

Marketing communication is shifting. No longer is it just a one-sided communication: your business talking at your clients and prospects. No longer will traditional media-based promotion alone (banner ads, print, TV, radio, email, outdoor media, direct mail, etc.) build your brand and bring the results you need to be successful.

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Marketing is now a two-lane highway where we not only speak to our audience, but also, more importantly, we *listen* to what they have to say. Your company needs to interact and stand out from the "noise" by incorporating social media into your overall brand and business strategies. When it comes down to it, your business is no longer holding the branding megaphone. Those who have a relationship with your brand (good or bad) are the main brand communicators. Are you listening to what they are saying?

### HOW YOU CAN MAKE YOUR MARKETING MORE SOCIAL

People have always been social beings. Aristotle famously stated, "Man is by nature a social animal." We feel safer in communities, from the days of the cave dweller until the present. Our communications styles have changed over time, of course. Instead of posting a letter in the village square, we have Twitter, Facebook, LinkedIn, blogs, Pinterest, YouTube and Flicker, just to name a few methods of sending and receiving information about our messages.

These social media outlets have allowed us to change the way we communicate. For instance, nobody would pick up the phone to call a friend about what Gatorade flavor he or she likes. Instead, people now find it acceptable to post this information on a news feed. Which news feed does not matter, just the fact that people are communicating this way is what is important.

When someone is stuck in traffic because of a highway construction project, that person may vent his or her frustrations on Facebook or Twitter instead of calling a friend to complain. By using a social media platform, the reach has extended to acquaintances this person has not seen in years. Or, if he or she is using Twitter, he or she could be communicating with people he or she has never met before. If your logo is attached to this project, your firm may be getting unfavorable publicity to thousands of people. If you are not paying attention to these outlets to find out what people are saying about you, there is no way for you to respond appropriately.

When Twitter started in 2006, we all thought, why would anyone be interested in this? Who cares what I have to say or what my firm is doing right now? However, it is not always about you talking — when others start talking about your company, other people are listening. If you are paying attention to what others are saying about you, it is a perfect opportunity to leverage that information. You do not need to tweet to get value from Twitter. By simply listening, you gain access to real-time market intelligence and feedback. However, by participating in the online community, you have the chance to build relationships with customers, potential clients and industry influencers.

By making your marketing more social, you are essentially taking your company from a nonhuman entity to a human one. What does it mean to humanize your brand? You give your business a voice using Facebook, Twitter, LinkedIn, a blog, etc., which allows people to relate to your company. Determine the tone for your company's voice. The majority of us change our own tone of voice depending on the environment we are in. For example, in the boardroom, we are professional and all business. But when talking with our friends, we change our tone. We let our guard down; we are more relaxed and friendly. The same goes for your corporate voice. When engaging your audience in a social atmosphere, think about how your tone should change.

**By making your marketing more social, you are essentially taking your company from a nonhuman entity to a human one.**

### SOCIAL MARKETING IS NO LONGER A WASTE OF TIME

Word of mouth dramatically carries further than it ever did before, now that we have social media. One blog post or Facebook comment can reach thousands, if not millions, of people.

Some view social media as a recreational way of communication, and so it gains a stigma of being unreliable and unprofessional. How can we take Facebook seriously as a business tool when we use it to share photos of our vacations and praise our favorite sports team? This may be the reason that we tend to question the value of social media more so than other business-related initiatives.

## HOW YOUR FIRM CAN MARKET SOCIALLY

**Content is King.**

Develop strong content to push out through your social media channels. The content you produce needs to be timely and relevant. In 2010 Eric Schmidt, Google's executive chairperson, announced that we are creating the same amount of content in just 48 hours that we created from the beginning of time through 2002 worldwide (http://techcrunch.com/2010/08/04/schmidt-data/). We are living in a world where everyone has a voice. Yours needs to stand out from the noise and brand your firm as a thought leader and influencer.

**Develop Your Voice.**

Engage in communities, blogs and LinkedIn discussions where people are discussing the industry's "hot" topics, such as the latest construction software, Building Information Modeling (BIM), upcoming talent shortages, design-build, etc. By participating on a regular basis, you keep your name and expertise in front of potential clients.

**Connect with Other Communities.**

Fostering connections with industry bloggers, LinkedIn groups and publications will promote your firm and your expertise. These communities can introduce you to an audience to which you may not have otherwise had access. For example, your LinkedIn network can help you pursue potential clients and help others find you for possible business opportunities. Furthermore, commenting on industry blog posts or even guest blogging can mark your firm as an industry expert.

**Commenting on industry blog posts or even guest blogging can mark your firm as an industry expert.**

**Share Your Expertise.**

Start a company blog to announce new products, communicate successes, showcase your work, discuss new trends and how they help the construction industry, and announce industry events you are hosting or attending. Do not forget to promote these posts in your social media network: Tweet about the post; Start a discussion on LinkedIn; Share the post on your Facebook wall. Did you just finish an extensive project your firm is proud of? Share photos on Flicker or create a video about the project and upload it to YouTube. These tools help you to display your company portfolio to a wide audience.

**Improve Your SEO.**

Search Engine Optimization (SEO) is the process of increasing the number of visitors to your website by getting a high ranking on search results pages such as Google. Now that you have a voice and content to share with the industry, draw all that effort back to your website. One of the main benefits of social media is that it directs traffic back to your company's website. Your website can showcase even more of your work and provide details about your services and products. And you are now on your way to creating lead generations and improving your bottom line.

If you still are not sold on the benefits of social media, consider this. Do you want to:

- Answer questions about your product or service?
- Educate your clients and/or potential clients?
- Follow up after a project is complete?
- Conduct market research?
- Discuss industry best practices?

Excellent! Then you are ready to jump on the social-media bandwagon. While all these items relate to traditional marketing strategies, they are also used in social marketing strategies. You do not need to throw your current marketing plan out the window; just amend the plan to include social strategies that complement your business objectives.

### WHAT IS THE RETURN ON INVESTMENT (ROI) OF SOCIAL MEDIA?

This is the question that every business leader wants to know. We live in a world where every minute counts, and if we cannot attribute a rise or fall in sales to something tangible, we assume it does not work. But any savvy businessperson should question the value or ROI that potentially takes time and money from your business.

In today's business environment, companies are sprinting to the finish line; they are worried about short-term goals and want quick results. Let's face it, social media will not do anything to your bottom line in a six- to 12-month period. Companies still need to wine and dine the audience before it will commit. You have to nurture the relationship. Marketing your brand in social circles does not provide immediate ROI; but over time, it can be a very valuable way to connect and nurture current and potential client relationships.

ROI has become an excuse for many companies to delay incorporating social media into their overall strategies. However, consider the ROI of the following common business practices:

**Meetings.** Especially the ones where you leave wondering, what was the point? How much time do you and your staff sit through discussions that go nowhere? That time could have been devoted to following up with leads and connecting with clients.

**Giveaways.** If you are getting sales because someone picked up a pen with your logo on it, fantastic. However, were you able to track that lead? What is the ROI of all the logoed mugs that are sitting in your storage closet right now?

**Yellow Pages Ads, Direct Mail Pieces and Tradeshow Booths.** If you are designing these pieces effectively, a call to action will direct the audience to a

**GARY VAYNERCHUK, KEYNOTE SPEECH AT INC. 500 SEMINAR 2011**

Gary Vaynerchuk is cofounder and CEO of VaynerMedia, a social media brand consulting agency. He is also an author and public speaker on the subjects of social media, brand building and e-commerce (http://www.garyvaynerchuk.com).

The Inc. 500|5000 Conference & Awards Ceremony is an annual three-day event that brings the nation's brightest, most successful business minds together to celebrate the remarkable achievements of the companies that appear on Inc. magazine's prestigious ranking of America's fastest-growing privately held companies (http://www.inc.com/events).

Here are some excerpts from Vaynerchuk's session:

"Brands need to remember that social media is a customer service tool first and a sales tool second. People are marketing like they are planning a wedding. They put all their effort into planning and then no time at all working on the marriage. For the first time ever, we are living in a push (not pull) economy. Brands are not in control anymore. Customers are. But we need to return to "small town rules." Big brands acting like local businesses that care. Like 50 years ago in small town communities. Because most businesses are missing the point. Social media is not about talking. It's about listening. It's about creating word of mouth at scale. Because as humans, we love to share good things. But we don't want to be sold to. Big retailers need to start acting like small start-ups. And become obsessed responding to every. Single. Comment. Post. Tweet. Request. Because the people who want to talk to you are the people who want to buy from you. And whichever brand cares the most. Wins." [1]

measurable target, for example, a landing page on your website. Unfortunately, these call-to-actions cannot always be traced back to these marketing tactics, and so ROI remains undetermined.

## CONCLUSION

What we can track from social media will not correlate necessarily to a monetary value, but it will determine how your company is perceived in the market, and how well you are connecting with your clients and potential clients. As social humans, we love to share good things as well as bad experiences. Find out what people are saying about you on Twitter, Facebook, LinkedIn, etc. When you start to monitor these conversations, you can use this information to determine how to position your brand going forward. Consider humanizing your brand so it has personal appeal that resonates with your market, and start sharing helpful information in social media channels. Most importantly, do not forget to listen. ■

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[1] Retrieved from: http://www.slideshare.net/jeremywaite/60-30-10

# *Your Bad Project Just Got Worse: The Basics of Cost-to-Complete Forecasting*

***By Scott Kimpland***

# #10

As the president and vice president of operations for Acme Mechanical, Inc. leave the monthly cost-to-complete meeting on the St. Joseph's Hospital Expansion project, both are visibly upset and shocked. The president tells the vice president that they need to meet for a few minutes to discuss what they just heard. Once inside the president's office, they close the door and begin to criticize the project manager because for the third month in a row, they will take a significant write-down on this project.

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For the first eight months, the project manager had been telling them that it was going to be tight, but the project was on budget. For the last three months, the project has been stuck at 85% complete, labor costs continue to escalate, and the cumulative write-downs approach a quarter of a million dollars. Everyone, including the project manager, is surprised, hoping that the latest cost-to-complete forecast is accurate and that the project has truly found the bottom.

Does this sound familiar? It happens every month across the industry. Project managers recognize too late in the project that they are going to have significant costs overruns and write-downs. How and why does this happen so often? Having worked with thousands of contractors and tens of thousands of project managers, FMI has developed a good understanding of the reasons behind poor and inaccurate cost-to-complete (CTC) forecasts and why so many companies get surprised with bad news at the end of their projects. While forecasting all of the direct costs and general conditions is an important element of developing an accurate CTC, this lesson will focus on the most variable direct cost item, labor.

The best and most accurate labor CTC is still a forecast or estimate, no matter how well it is done. By definition, a forecast or estimate is a prediction that includes both objective (science) and subjective elements (art). As a result, risk and uncertainty are central to estimating and forecasting, and usually there will be some variance between actual and estimated labor costs. Therefore, the objective to develop a good CTC should be to minimize this variance through use of as much objectivity as possible. Because there are so many moving parts and pieces, developing a reliable CTC requires a broad understanding of the various items that can affect it. Below, we will examine a number of key elements that ultimately impact the quality and reliability of a CTC forecast.

## KEY ELEMENTS THAT IMPACT THE CTC

**1. Role of the Project Manager.**

On a basic level, how the role of the project manager is defined within your company has an impact on the CTC and the project manager's ability to prepare a good CTC. If you believe and support the idea that the project manager's primary responsibilities are to manage the project, know where the project stands financially at all times, and accurately estimate the direct costs for all of the remaining work on a project, you have the role defined correctly. You also have an immediate advantage over other companies that believe the project manager should simply be an administrative manager or glorified submittal clerk. The companies that do the best job on CTC have project managers who are accountable and responsible for overall financial performance of the project. They work closely with the field managers, but are truly the "managers" of projects. Said simply, FMI believes that field managers should be held accountable for meeting and/or beating the budgeted labor hours, and project managers should be accountable and responsible for meeting and/or beating all budgeted direct costs, including labor costs. If you define the project manager's role more as the administrative type and less as a real manager, you would be better-served to change his or her title to what FMI would call a "project witness."

> **The companies that do the best job on CTC have project managers who are accountable and responsible for overall financial performance of the project.**

**2. Good Project Budget.**

Good cost-to-complete forecasting requires a good project budget. This means that prior to starting work and incurring actual labor costs, the project manager and field manager have worked collaboratively to set up the format and logic for how labor costs and hours will be tracked on the project. This includes things like how many labor codes are appropriate and a work breakdown structure that closely mirrors how the project will actually be constructed in the field. The objective should be to have just enough labor codes to know where the project is over or under budget on labor and be able to identify specifically how each work task is performing. If left to a detailed and analytical estimator, the project budget would have hundreds of labor codes. If left to the field manager responsible for reporting, coding and tracking time, the budget would have one code for labor. Somewhere between these extremes of labor codes is preferable for all projects and best determined by the project manager and field manager, who will be responsible for having to estimate future labor and prepare the monthly CTCs. Benefits of requiring the project manager and field manager to work together on developing the project budget include:

- It forces the people executing the project to really understand and plan it, and is one element of good preplanning.
- It results in a logical budget with the correct number of phases, labor codes and work breakdown structure. If the budget makes sense to the team, the chance of getting things tracked and coded correctly is much better. Doing CTC when the budget is logical and costs are accurately coded is also much easier.
- It creates buy-in and ownership of the project budget. This eliminates any potential finger-pointing between estimating and operations at the end of the project, particularly if there are labor cost overruns.
- It identifies bid busts and estimate problems early. Rather than finding out that the original estimate was wrong at 80% complete, this budgeting process allows the team to identify any problems early, thereby giving it a much better chance of developing a solution or finding items to save labor somewhere else on the project. The original project budget really serves as the initial CTC. If a problem is identified and everyone agrees that the estimate has problems, this is the time to recognize and acknowledge it. Ignoring it and hope that it goes away is only going to delay the problem.

**3. Accurate Productivity Tracking and Reporting.**

Odds of reliable CTCs increase with accurate tracking and reporting of productivity and time. Productivity is defined as output per unit of input. In construction, this is often measured as units/man-hour or units/man-day. When developing a CTC, knowing the actual production rates on the work installed to date is a huge advantage. The field manager should be measuring, tracking and reporting the quantity of work installed every day. For companies that require their field managers only to track time and report it to a code without tracking the actual amount of work installed, trying to identify how much work is remaining and the labor required to complete it will be subjective at best.

**When developing a CTC, knowing the actual production rates on the work installed to date is a huge advantage.**

By having real data that shows the actual quantity of work installed and the man-hours/man-days required to install it, determining exactly how much work and labor estimates remain will be much more objective.

**Even with good productivity data on the work that has been installed and an accurate assessment of what work needs to be completed, there is a certain amount of art and judgment that go into forecasting CTC.**

**4. Agreement on Percent Complete.**

In addition to having productivity data for the work installed job to date, a reliable CTC requires the project manager and field manager to walk the job, review every work task and agree to the percent complete. By tracking production daily as described above, these tasks should be much easier, since the productivity data should provide a summary of the amount of work installed. By knowing the budgeted quantities from the takeoff and quantities installed to date, the team can come close to quantifying the remaining work to be completed. Companies with reliable CTCs require the project manager and field manager to be in complete agreement on the percent complete and, at least, on the labor hours to complete the remaining work. While most project managers and field mangers understand the basic concept of percent complete, many do not know that to be most accurate and reliable, it has to be calculated as follows:

$$\textit{Percent Complete} = \frac{\textit{Costs to Date}}{\textit{Costs to Date} + \textit{Costs to Complete Remaining Work}}$$

**5. Changing Production Rates.**

Even with good productivity data on the work that has been installed and an accurate assessment of what work needs to be completed, there is a certain amount of art and judgment that goes into forecasting CTC. Simply assuming that you will continue to work at the same production rates as the work to date is not a good assumption. There are a number of variables that can and will cause the productivity rates on the project to change. The project team should consider these and adjust the estimated production rates on the remaining work accordingly. A few variables to consider include the following:

- Productivity in the first and last 10% of a project is rarely as high as it is in the middle 80%. This is sometimes referred to as the S-curve of production. There are a number of factors that cause this, but if this fact is not recognized, the labor CTC will likely be underestimated.

- The more change orders a project has and the later in the project that they occur become big factors that drive productivity. On projects with significant changes, particularly ones that occur toward the end, overall productivity is negatively and significantly impacted.
- The quality and reliability of the general contractor's or construction manager's scheduling and trade contractor coordination are also big factors that impact productivity.
- Trade stacking, overstaffing, weather, temperature, climate and overtime are also productivity killers that must be considered when estimating the amount of labor required to complete the remaining work.

**6. Labor Plan and Schedule.**

A labor plan/schedule for the project is another way to help validate and add objectivity to the CTC. A good labor plan/schedule is developed by the project manager and superintendent at the beginning of the project and updated on a monthly or even weekly basis. The labor plan/schedule should mirror the overall project schedule and include crew sizes and durations for each work activity. It should also aggregate in such a way as to reconcile with the budgeted man-hours per activity and the total of all budgeted project labor hours.

**A good labor plan/schedule is developed by the project manager and superintendent at the beginning of the project and updated on a monthly or even weekly basis.**

The labor plan includes how individual activities will be staffed on the project from start to finish. If at any time the actual number of people on the project varies from the plan, the project team needs to evaluate. If the number of people on the project is larger than planned but activity durations and/or the completion date is not changing, beware; you are about to have an unpleasant surprise! If the labor plan/schedule was used to help develop your previous CTC, the team must be disciplined enough to maintain the planned crew sizes. All too often, the general contractor or construction manager demands more manpower from the trade contractors to complete the final push of the project, and undisciplined trades react by sending more labor. If put under still more pressure, they then begin working overtime. Sending more bodies and working more overtime typically cause a decrease to productivity (units/man-hour) and create a huge, unexpected labor overrun late in the project.

**7. Change Orders.**

A good CTC requires that the project cost budget must be current and reflective of all change orders. In spite of the contractual terms, rarely do trade contractors have a signed change order in hand before starting work on a change order. In many cases, the contract actually requires them to complete the directed work with no agreement on price. While any objective person would clearly consider this an unfair practice in allocating risks, it has become an industry norm. The result is that the trade contractor performs the work, takes all of the risks and ends up negotiating a price, often for a fraction of the true cost, months after the work is completed.

Since one data point for doing a CTC is the most current job cost report, it is important to ensure that the budgeted labor costs and budgeted labor hours are updated at the time that we commit to perform the work. It may be necessary to wait until you have received a signed change order to recognize the additional revenue from the change order; it is far too late to update your budget. The cost budget for estimated labor dollars and hours for change-order work must be entered at the time you commit to do the work. How and whether you get paid for this work may depend on receiving a signed change order, but this is a completely different issue.

Remember, your estimators are expected to provide a CTC on every project that they bid with a half-baked set of plans, absolutely no real productivity history for the specific project and no work completed to date. By having the benefit of actual work put in place, some real production data and a deeper knowledge of the project that comes with time, it is more than fair and realistic to expect your project managers to have much more reliable estimates and forecasts than your estimators were able to produce on bid day.

This lesson only begins to address the basics of a good CTC for labor. There are many other intricacies and nuisances to developing an accurate and reliable forecast for all of the direct costs on a project. The major areas described only begin to outline the art and science that go into this complex and confusing topic. Hopefully, this lesson provides some basic guardrails and a starting point by which to evaluate whether your company's CTC process is accurate and reliable. ■

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# *Peerless Executive Development*

#11

***By Kevin Kilgore and Irenka Huttunen***

As FMI rolls into its 60th year of business, we reflect on the many changes for the country, the construction industry, individual companies and our own company. Embracing and anticipating change is the role of senior management. Likewise, we understand that professional development and continual learning create the best executives. Whether times are tough or revenues are thriving, entrepreneurs and business owners must sharpen their blades persistently in order to endure the volatility of commerce.

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It comes as no surprise to us that in any industry, peer groups offer a unique venue for executive development. A peer group consists of individuals who have a common interest (i.e., industry, market, etc.) and meets frequently to discuss current challenges and issues as well as ways to take advantage of opportunities and trends in the marketplace. Why do peer groups work? In short — good processes, people, chemistry and focus on results. Here we will look at how peer groups have proven to be an excellent tool for executive development.

### COMMON GOAL TO BETTER YOUR BUSINESS

Peer interaction provides a unique forum for industry leaders to examine specific solutions to the challenges of running a business from the executive management of similar organizations. From within these groups, members learn new ideas and identify opportunities to better their businesses. Through interaction with other bright people, candid feedback and staunch accountability, peer groups drive positive change among the member's management teams and improve results of their firm's overall objectives.

## EFFECTIVE PLANNING PROCESSES

Peer groups offer conferences focused on a wide range of general business issues. Through a series of preparation processes, consisting of group phone calls and deep brainstorming discussions, each peer group collectively determines the topical content for its meetings. The issue-specific agendas, benchmarks and follow-up tools create open environments for comparing specific performance, risk management and profitability matters from each member's business.

## VARIETY AND FLEXIBILITY OF FORMATS

Not only do peer groups custom-craft their meeting discussions and topics, but also they tailor-make their group formats. By doing so, each group gains the flexibility to adapt as necessary. As we know, not everyone learns the same way. Similarly, not every group functions the same way. Understanding the differences of business and learning styles allows the peer group facilitators to customize any group of executives with the appropriate meeting format to ensure progressive development.

### Round-Table Best Practice

The executive round-table format provides the opportunity to share processes, procedures, documents and knowledge regarding specific subjects. Participants are responsible for extracting ideas and incorporating the changes into their organization. The process is analogous to cooking class, where the aspiring chef translates the lessons in the classroom to the kitchen at home.

### Parallel Meetings

Parallel meetings allow line managers or business unit leaders to engage at an intimate level with their counterparts at the peer companies. The primary benefit of the parallel format is a deep dive into the specific operating practices of similar firms. This is a rare opportunity for candid connection with people solving similar issues. The secondary managers leave fired up with many ideas they will want to implement upon return to their operations.

### Tandem Meetings

Tandem meetings create regularly scheduled interaction and learning within the peer companies. These groups meet on their own with predetermined subject matter, create recorded individual action plans and ultimately report their findings, goals, processes and achievements to their respective leaders. Continual access creates familiarity, accountability and deep, ongoing resourcing.

### Audit

The pinnacle of peer group trust, intimacy and value attainment is the audit. As the name implies, the purpose is a deep understanding of the true operation of a business. The outcome is an evaluation of the business with specific observations and recommendations for the target company. The auditors of the meeting benefit from the intimate, inside perspective of another contractor's business. The audited company benefits from the collective knowledge of his peers. The culminated counsel from the peer evaluations is hard-hitting, straight-from-the-gut advice that all executives should seek.

### ORGANIZATIONAL INVOLVEMENT

The knowledge acquired from a peer group meeting does not stop with the executive participant. Through evolving meeting formats, varying agenda topics and progressive objectives and accountability, it is inevitable that a member's organization becomes deeply involved in the peer group process. Employing the peer group membership to its fullest has proven to aid firms in connecting senior leaders within their organizations with their peers to begin undertaking similar paths of development. Some groups find the most benefit from involving specified business areas such as business development, pre-construction and risk management. Others have formed groups of their next-generation leaders, creating relationships to ensure senior leader and executive development continuity.

> **The peer group experience is ideal for any executive who is a student of its business.**

### BUSINESS RELATIONSHIPS AND EXTENDED NETWORKING

It is the leader's responsibility to develop relationships, both within the business and externally, through networking. Evolving executives experience a world of networking opportunities found in the noncompeting, similar firms of the peer groups. Examples of such networking opportunities vary from groups participating in jobsite or office operational tours to groups participating in issue-specific brainstorming discussions or training forums to members even participating in joint venture opportunities. With a network of peers to work with, possibilities for creative growth activities become almost endless.

The peer group experience is ideal for any executive who is a student of its business. The best businesspeople hunger for the knowledge of how to improve and how successful companies go that way. Peer groups are a unique format for studying all aspects of what makes a business, and the people who power it, successful. When done well, the chemistry and relationships provide a resource base and team of advocates who care about your success. Running a business can be a lonely and isolating experience. A team of true peers can provide the support, guidance and camaraderie to make a difference. ■

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# Communicate, Communicate, Communicate

*By David B. Madison*

#12

Writing about the importance of communication may initially appear to be trite. Would any effective leader/manager deny that "good communication" is imperative for a business to thrive? Yet, despite this awareness and the relentless attention communication receives, organizations still struggle to communicate effectively.

To confuse the situation further, as the level of technology advances, it seems like genuine communication has decreased. To some degree, communication is much like staying healthy; we all know we should exercise daily and eat right, but all too often we find ourselves delaying that trip to the gym or pulling through the drive-through for a quick breakfast or lunch.

At FMI we work with a wide range of construction companies across the country and from numerous trades. Our work relies on thousands of data points gathered from a wide range of construction industry employees. Through countless interviews and surveys, we gain insight into the perceptions and the realities of the organizations with which we work. Although each firm is unique and has its own individual challenges, it is not surprising that a large number of our clients identify themselves as ineffective communicators. Even more interesting, the further we remove ourselves from the leadership of the firm, the more profound the communication gap becomes. Said another way, the closer we get to the actual work being put in place, the stronger the need for improved communication effectiveness.

Among best-in-class firms, effective communication begins at the top through an intentional and continual commitment. The best organizations over-communicate; that is, leadership at all levels of the firm repeatedly share the same information in multiple ways and channels, to account for the variability in employees' ability to receive information. By modeling this commitment to communication, the desired behaviors spread throughout the organization, becoming an integral part of the cultural fabric. Of course, this does not happen quickly. Arguably, it is a never-ending effort. Despite the challenges, companies that support and promote effective communication reap the benefits.

## OBSTACLES TO GOOD COMMUNICATION

Admitting that effective communication is important is the easy part — most of you were there before reading this article. So why doesn't effective communication happen? Why would we neglect something so important? Everyone's answer is likely a little different. There are plenty of obstacles on the road to becoming better communicators, but the two biggest obstacles to effective communication that we see in our work with contractors are uncertainty and time. Acknowledging and understanding these obstacles is the first step toward developing a plan to overcome them.

### Time

Working in the construction industry often requires us to be agile and flexible with our time and often it requires that we fit 16 hours of work into a 10-hour day. Strapped for time, and overloaded with work, it is easy to shift into a triage mode of communication; we begin to deliver only those messages regarding the short-term problems that have our immediate attention. In doing so, we are keeping the wolves away from the door, but often we are neglecting messages that benefit the long-term health of our businesses. The construction industry is demanding of our time, and there will never be a shortage of surprises to be dealt with, but this should not prevent us from communicating to our teams, proactively and intentionally. To do so, we need to develop our communication infrastructure to answer the crucial question of communication: Who needs to know what by when? To ensure we benefit most from our communications, viewing all project and company communications through this filter ensures we prioritize the highest-value messages and audiences and minimize the extent to which noise filters through to nonessential audiences.

### Uncertainty

To say that we work in an industry full of uncertainty would be a gross understatement; the construction industry is driven by macroeconomic trends that are widely out of our control and market fluctuations that are difficult, if not impossible, to predict. This ever-changing climate keeps owners and leaders continuously questioning the next move and analyzing the last one in an effort to smooth the volatile ups and downs and drive success. At a project level, it is equally hard to map out the challenges that will likely arise: Working with other firms, weather and financing can all affect our level of certainty and change the dynamics of a project midstream. Come decision time, the natural uncertainty that accompanies operating in the construction industry can be paralyzing to an organization. Combine that with the stigma of weakness that comes with uncertainty, and it is easy to understand why leaders often are reluctant to communicate to their organizations with anything less than a well-thought-out and foolproof plan. However, in the absence of full clarity and a perfect plan, we should not neglect communicating to employees; they understand that we operate in a challenging industry and are our most empathetic audience. To communicate purposefully in a climate of ambiguity is a leader skill worth developing.

## WHEN WE HAVE TO OVER-COMMUNICATE

Employees fundamentally understand that change is often a necessary part of an organization being successful. Despite that understanding, when change presents itself, there is a natural discomfort and resistance. As discussed, there are often things standing in the way of communication, but there are certain times when it would serve us well to over-communicate, whether through email, phone calls, memos, meetings, etc.

**During volatile times, acknowledging the situation and outlining a plan for weathering the storm are invaluable to employees.**

### Volatility in our Market

The last five years have certainly reinforced the fact that volatility in our industry can be very unsettling to teams and can quickly erode morale. As margins tighten and bonuses shrink, concern about the future grows among employees. The same uncertainty discussed earlier that keeps us from supplying information is perversely increasing the demand for information. During volatile times, acknowledging the situation and outlining a plan for weathering the storm are invaluable to employees. Good communication can quickly dissolve rumors, support employee retention and serve to rally employees during difficult times. In many ways, it may be more important to communicate during these times than in smooth times. Employees want to know the plan and strategy for getting through the storm.

### Changes in Leadership

The construction industry, more so than many, has a culture of camaraderie that relies on strong relationships between leaders and crews. Because of this dynamic, making changes to organizational structure or leadership can send shockwaves through an organization. Communicating the reasons for a change in leadership and setting the stage for a new leader can ease the natural discomfort felt by employees.

All too often, when there is a change in leadership, firms are guilty of sending out mass email notifications or, even worse, allowing the news to spread by word of mouth. Best-in-class firms take a much more thorough approach that will vary, depending on the level of leadership affected and the number of employees impacted. At a very minimum, a short meeting with those employees directly affected by the change should occur prior to the change, and, when appropriate, the shifting or outgoing leader should be involved. In this setting, it is much easier to frame a consistent message and put to ease initial concerns from the group. Those initial stakeholders also become the couriers of the message to the rest of the firm and ideally advocate for the new leader and endorse the decision.

### Changes to the Compensation Plan

One of the most sacred things to employees is their compensation. Of all the changes that an employee may encounter, a change in a paycheck can easily be the most discomforting. Rarely do we see a shift in the fundamental compensation plan, but it is not uncommon for adjustments to be made to things such as incentive compensation plans, vehicle allowances or other employee benefits. As managers, we often see these benefits as secondary to an employee's income, but the reality is people begin to see these secondary perks as real compensation and often adjust their lifestyles accordingly.

When compensation is affected, it is imperative that we speak openly and honestly about the strategic reasons driving the decision. While employees may not be pleased about the change by any means, they are much more likely to be empathetic about the decision when it is not a surprise. In the case of a change in incentive compensation, modeling the expected impact to the employee is a must. In reality, changes to an incentive compensation plan most often are intended to reward employees more justly; understanding the plan and the new drivers of compensation often leaves our top performers more satisfied than before. However, without thorough communication of the changes, the initial confusion and uncertainty may result in unrest that could have been avoided.

Sometimes the communication failure occurs when leaders/managers assume that common knowledge is, in fact, common knowledge. Consider the 2013 changes in paychecks resulting from the expired payroll tax cut, the increase in the Social Security Wage Base and the increased taxable Medicare wages for high earners. When payroll checks were suddenly different from last pay period, did you assume that all employees read the paper or watched the nightly news and knew what was going on? Before the paycheck change, hopefully you over-communicated the reasons for the changes. If not, you likely had some confused and concerned employees.

## CONCLUSION

All of us understand the importance of communication, but the best contractors understand the constant and consistent effort that has to be put toward effectively communicating. Strong communication requires short-term effort that delivers long-term benefits. But like our original analogy, without those "daily trips to the gym," we will never reach our peak performance as contractors. As long as we keep the fundamental communication question in mind, "Who needs to know what by when?" our internal communications are more likely to get the job done. ■

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# Unlocking the P3 Potential in the U.S. Construction Market

**#13**

*By Sabine Hoover*

As engineering and construction firms continue to shake off the effects of the recession and reorganize plans for future growth, public-private partnerships (P3s) are one area that some organizations are exploring with much diligence and perseverance. Regularly discussed by both public officials and industry practitioners alike, P3s have been slow to gain traction in the U.S., but still present a growth opportunity for firms that put the time and effort into such projects.

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By definition, a P3 is a government service or private business venture that is funded and operated through a partnership of government and one or more private-sector companies. Such partnerships play out particularly well on large infrastructure projects, where financing, ideas, risks and other input can be shared among the various parties — all of which have significant stakes at play.

Although P3 infrastructure projects have had a fitful history in the U.S., other countries, including Canada, Australia and the United Kingdom, have fine-tuned such arrangements over the last few decades. Between 1985 and 2011, for example, 1,969 P3 projects were funded worldwide, but the U.S. accounted for only 377, according to the Public Works Financing's International Major Projects database. In contrast, 699 such projects were funded in Europe and 406 in Asia and Australia.

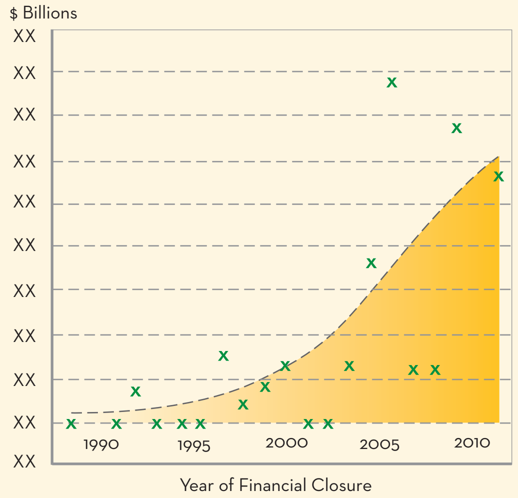
In the U.S., P3s primarily are used

> P3s are slowly gaining traction in the U.S. for the viable opportunity that they present to design and construction companies that are willing to put the time and effort into working closely with local, state and federal organizations.

in the transportation sector (see Exhibit 1). Many industry analysts expect this trend to intensify, as P3s have proven to be a viable means to repair and upgrade infrastructure, particularly in a strained economy where public resources are limited and private capital is in need of strong, risk-adjusted investment opportunities.

Exhibit 1

**P3 Investment in the U.S. Transport Sector**




Source: Public Work Financing, October 2010, and other sources.

## WANTED: INNOVATIVE DELIVERY METHODS

A growing number of owners are looking for new and innovative delivery methods that incorporate state-of-the-art technologies and offer a broad variety of project components. Such alternative formats include Design-Build, Design-Build-Finance, Build-Finance, CM-at-Risk and varying Integrated Project Delivery (IPD) arrangements. Each iteration offers greater collaboration between stakeholders in a departure from the linear hard-bid contract, traditionally driven by the owner spec.

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

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

## OVERCOMING P3S' KEY CHALLENGES

One of the fundamental issues slowing a broad P3 acceptance in the U.S. is the lack of understanding of what public-private partnerships really are. James Geer, manager of P3s at Kiewit, sums it up: "I think there is still a tremendous lack of understanding of what P3s are all about, what value they bring, and, ultimately, where their place is in the market."

"From the owner's perspective, you have 50 states and each has a different way of looking at things, combined with varying degrees of enabling legislation," Geer continues. "When you have that much diversity and decentralization of the decision-making process at the project delivery level, the education process takes time."

Despite the industry's slow-to-change mindset and the high level of uncertainty over what P3s are all about, knowledge and agility among contractors, construction managers and other stakeholders are building, with interest in P3s piquing at local, regional and national levels. The impetus for firm leaders to move beyond the traditional business model has received a bump from the difficult market environment.

Given today's economic constraints and the huge need for infrastructure development and replacement in the U.S., P3s are well-positioned to become more widely accepted — for both economic infrastructure (e.g., roads, bridges,

**SIX STRATEGIC P3 ASSETS FOR DESIGN AND CONSTRUCTION FIRMS**

Through in-depth interviews with more than a dozen P3 industry leaders as well as FMI experts, the following tactical strengths were identified as the six key strategic assets for design and construction companies interested in P3s:

**1. Build your expertise through strategic joint ventures.** Pick your partners carefully. Most interviewees described P3s as a completely "different animal." What you learned in previous construction jobs does not necessarily apply to P3s.

**2. Plan comprehensively for project complexities.** Be smart about your business decisions. P3s are typically complex and large-scale projects. It is therefore important to know what to expect of the partnership beforehand and to outline expectations and responsibilities at the outset in an extensive, detailed contract.

**3. Understand the cost and risk barriers to entry.** Due to the magnitude of P3 projects, contractors are often required to provide proof of strong balance sheets and solid bonding capacity. Furthermore, P3s bring with them greater risk in terms of a longer life cycle, larger scale of liability and heightened vulnerability to changes in external dynamics as the project progresses.

**4. Be strategic about the projects (and owners) you go after.** Preparing bids for P3 projects can take years and millions of dollars of investment. Therefore, it is paramount to have a deep understanding of the owner's ecosystem. What are the budgeting process, timetable and constraints? What does the decision-making process look like? How is the public agency run? What is the viability of the project, which is often dependent on the public and political context?

**5. Get in the door early.** Start building relationships with public officials and finance representatives now. P3s require commitment and support from senior public officials, who must be actively involved in supporting the concept of P3s and taking a leadership role in the development of each given partnership if they are to succeed.

**6. Collaborate and innovate.** P3 projects are highly complex and collaborative in nature and therefore cannot be run in a silo-type manner. New emerging technologies, as well as owner demands, are pushing design professionals and contractors to work as a cohesive team from the outset, communicating and approaching projects more holistically.

railways, water/wastewater treatment plants, etc.) and social infrastructure projects (e.g., hospitals, courthouses, schools, etc.).

However, until more successful P3 examples emerge, traction may remain low for such arrangements. At the 2012 U.S. P3 Infrastructure Forum, for example, proponents of such partnerships argued that the more successful P3 projects that are completed in the future, the more confidence and trust the general public, industry stakeholders and government officials will have in these complex finance and delivery models. After all, success breeds success.

**Given today's economic constraints and the huge need for infrastructure development and replacement in the U.S., P3s are well-positioned to become more widely accepted**

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

Remember that beyond the complementary benefits of public and private entities attracting a counterpart to contribute their strengths to a project, there is a real synergy that can be tapped through collaboration that renders the final product greater than its individual parts. Solid partnerships offer a deep understanding of the needs of each stakeholder and provide a means to facilitating the work beyond what is seen on a typical arm's-length commercial relationship. ■

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# Why Strategy Fails

By Brian Moore and Jeremy Brown

#14

"Too long. Too short. Too outdated. Too irrelevant."

This may sound like your childhood "Goldilocks and the Three Bears" book, but they also may be adjectives you use to describe your company's strategic plan.

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Strategy determines how you will invest the limited amount of time, talent and treasure you have to align with market opportunities. There are countless books and articles written on strategy, and a simple "business strategy" search of Amazon's book offerings yields a staggering 85,000 results. This search will provide you with several catchy book titles, some of them containing words about blue oceans, ninjas, safaris, pumpkins and even one about a fat smoker. At an average price of $20 a pop, you would need to shell out nearly $1.7 million to get through Amazon's collection of business strategy offerings alone. Even worse, at an average of two hours per read, it would take you 20 years to get through all of them — assuming no sleep (which we know is not a problem for you contractors), but at some point your families are going to take offense that you prioritized ninjas and fat smokers over them. Even if you do not care about your family, something tells us that the industry is going to change slightly over the next 20 years, so you may need another approach.

With all of these resources and clever ways to learn about strategy, why do so many firms in the construction industry struggle with this subject? If there are enough individual books on this subject sold on Amazon that would cover the surface area of one and a half football fields, we surely must have this strategy thing nailed, right?

Few applicable books are available to contractors that address the complexities relevant to their environment. Construction is a high-risk venture with risk concentrated in specific markets and occurring over tight time frames. Geography constrains contractors more than it does other industries, and while contractors often expand beyond their core footprint, these types of expansions can bring on inordinate amounts of operational risk for a business model that does not enjoy substantial economies of scale through increasing volume.

Buyers of construction services have many choices, which increase the difficulty in gaining a strong foothold with a steady customer base. In addition, since owners are the ones paying for anything new, the urge to get ahead in terms of innovation must be accepted ultimately by this generally risk-averse group, and then competitors can often imitate innovations. Furthermore, we cannot forget to mention the team needed to execute strategy. Contractors often are pulling from the same talent pool, resulting in a lot of time and investment to build a team that gives a competitive advantage, many times losing much of that talent during a down cycle. To put it simply, it takes a lot of time, resources and effort to gain an edge in this industry, and the outside world is moving at a pace that can make investments obsolete in weeks or months, as opposed to years or decades.

So what should contractors do, within their influence or control, to give them a clear competitive advantage? While there are no silver-bullet solutions, a successful strategy will typically answer some or most of these questions:

- What will give customers in your core market a compelling reason to pick you over your competitor?
- How will you gather and use business intelligence about, and develop key relationships with, targeted customers in your core markets?
- How can you generate a well-balanced customer mix that provides a diverse stream of revenue, while staying focused on being a forerunner in your chosen markets?
- How will you continuously drive operational and organizational effectiveness?
- Why will talented prospective employees pick you over your competitor and why will existing employees decide to stay and develop their careers with you?

As represented above, sound strategy often focuses on setting direction for the external environment, then aligning and motivating internal resources to capture that market potential. Traditionally, more thought and brain power will go into deciding what that direction is, and more blood, sweat and tears will go into the execution of that strategy.

FMI has been fortunate enough to work with many contractors over the past 60 years in developing strategic plans. We have seen companies elevate their organizations to new highs through great strategy as well as some that flounder in executing the words they put down on paper. By our observation, a few clear distinctions exist between those that succeed and those that obtain mediocre results or even fail at strategy.

If you find yourself struggling with your strategy, here are some of the top reasons that contractors fail at strategy and some advice to avoid being ensnared in these traps:

**You failed to focus on the few things that really matter.** Contractors, by their very nature, are about getting things done. If you are going to invest the time sequestered in meetings for days on end, you want to identify as many strategies as possible. Contractors often measure their day's success by quantity and therefore tend to produce voluminous chapters of a strategic plan. Instead of asking, "What are all the things we could do in order to accomplish our objective?" ask, "What are those few things that we can accomplish in the next X days that will give us momentum and propel us to the next phase and eventual success?"

The few things that you should focus on will ultimately be those that set a culture of excellence by showing real progress and generating excitement about change, thus developing a "rhythm" for the strategic direction of your organization. The few things that really matter to the strategic direction of your company can be the most difficult, such as making a key management change, starting or stopping your focus on a specific market or admitting mistakes to your people and making a commitment on changes going forward.

**You forgot that strategy is about aligning with market opportunities, which sometimes are not always right in front of you.** Many contractors have a hard time looking up and outside of their own organization and therefore neglect to gather sound data to make business decisions around markets, customers and overall trends that will influence where and how they work. Let's face it; research is time-consuming, expensive and often hard to understand in an operationally driven business. However, if you agree with the following statement: "It's a different world out there," then your decision not to engage in external market research before cementing your strategic plan is only half-baked. To have clarity and confidence around your strategy development, you need divergent thinking, followed by convergent thinking. That is, you have to surface many possible options and then sort through them with facts to settle on the few that really have promise. Assumptions about the "4 Cs" — climate, customers, competitors and capabilities — must be developed and tested before you can truly have good strategy based on sound understanding of the market.

**You focused too much on the outside world.** Yes, there is an outer bound to the amount of information that you realistically can collect, digest and base business decisions upon. Too much data leads to "paralysis by analysis." Some management teams have a hard time realizing when they have enough information to make a decision and realize that some things are impossible to prove "beyond a reasonable doubt." Management judgment must come into play. Some management teams simply do not have enough experience in dealing with ambiguity. The best management teams have a mix of people who are comfortable with ambiguity and those who are okay being a "devil's advocate."

**You based your strategy primarily on achieving some arbitrary revenue figure.** While the primitive nature of all human beings is to think that "more is better," the truth is that in this risky industry, "more risky" is something that you may not want to be. As avid readers of the Engineering News-Record's Top 400/600, we all can name the top contractors in our market segments. The contractors that can make those lists for generation after generation deserve much respect, but those firms are rare. Instead of focusing on volume, you should concentrate on maximizing earnings on sustainable revenue levels and mitigating the risk associated with those levels.

**You forgot about how, who and how much?** Well-crafted strategic plans are meaningless unless you know who is accountable and responsible for strategies and actions. We become so overwhelmed by information that we often forget to ask who is accountable — the individual who will take ownership of a task and who is responsible — the person or persons who will have the obligation to support the accountable individual. Additionally, without specific measurements or milestone goals that are scripted, we never know when we get to our goals and when they may need revision.

One of the best ways to help keep the organization accountable to strategy execution is to have regular sessions to review smaller parts of the strategy, constantly revisit and reinforce the overarching strategic themes that the company is pursuing. Constantly ask, "What's working," "What isn't working" and "What's next?" The intent is to create a management rhythm that will constantly drive the organization forward to execute its strategies.

**Well-crafted strategic plans are meaningless unless you know who is accountable and responsible for strategies and actions.**

**You forgot one last and minor detail — to tell your people about your strategy!** When it comes to strategic planning, the "What happens in Vegas stays in Vegas" syndrome will not suffice. Over the years, FMI has seen some brilliant strategies professionally printed and bound, only to be placed in the filing cabinet. When your employees know that you and the rest of the senior leadership of your company took off for a strategic planning event, they deserve to know some high-level outcomes of the strategic plan. A good communication plan will include the who, what and when of actionable outcomes of your strategic planning efforts. The plan will also provide an avenue for ambitious and up-and-coming employees to get involved, be measured and show their successes. After all, it is those employees who will ultimately be responsible for delivering results and will one day be participating in setting the future strategy of the business.

While these reasons are not necessarily indicative of overall failure, they are what we tend to see from companies that describe prior strategic plans that failed to gain traction or did not produce results. No strategy is perfect, and any strategy development process has flaws. Based on our 60 years of experience, we offer these classic flaws as a cautionary tale, so you can assess your current strategy processes and better position your organization to deliver the results you are expecting. ■

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# Volume Kills, Profit Thrills

*By Hugh Rice*

# #15

When Dr. Emol Fails founded FMI in 1963, his mission was to find ways to "improve the profitability of the U.S. construction industry." One of his first discoveries was that contractors defined success differently than most other businesspeople. Almost universally, contractors focused on accumulating a large top line (volume) on their financial statement as opposed to concentrating on establishing a large bottom line (profit).

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So "Doc" set out to convince the construction industry that focusing on price structure and profit margin enhancement was a more productive business strategy than simply adding volume in ever-increasing amounts.

### "VOLUME IS KING" PERSISTS

During the 60 years since then, many companies have converted their thinking to Doc's once-revolutionary concept of doing less volume for more profit. But the volume-is-king mentality still persists throughout much of the construction industry. When asked how the business is doing, today's typical contractor responds by quoting sales volume or backlog figures. Rarely are profit margins or changes in profitability used to express the state of the business. Most construction companies are still driven by the idea that bigger is better.

The reality of the industry is quite different. It is very common for the profitability of a construction firm to increase during a year when volume decreases. The question is, Why?

## INFLUENCING PROFITABILITY

Clearly, lower volume can result in a variety of factors that influence profitability, including the following:

- More intensive management applied to each project
- Elimination of marginal employees
- Focus on types of work in which the firm is most skilled
- Enhanced productivity
- More efficient application of resources
- More work with long-time customers
- Lower overhead expenses
- Less time spent managing a tenuous cash flow
- Less demand for fixed asset purchases

These factors, especially when added together, can result in significantly higher profit margins — large enough to more than offset a decline in volume. Although management intuitively understands how and why this phenomenon works, there nevertheless remains an irresistible urge to secure more work — unfortunately, at prices that allow for little or no profit.

One of the primary motivations in the pursuit of higher volume is a strong desire to "keep the organization together." A company's current team has been hired, trained and developed at considerable expense and effort. Decimating the ranks by cutting back is neither pleasant to contemplate nor to carry out. However, inaction can mean that all employees will ultimately lose their jobs if the firm can no longer stay in business.

## OVERHEAD CAN BE CUT

Another reason for seeking increased volume is to cover overhead. There is a definite perception among contractors that their overhead expenses are unique and can't be cut by another dollar. The reality is that all overhead items are variable and can be adjusted to fit the realities of the marketplace at any point in time. One of the keys to being profitable is to be the most efficient provider of service, including overhead expenses.

**One of the keys to being profitable is to be the most efficient provider of service, including overhead expenses.**

## THE SURETY DILEMMA

There are also external factors that lead a construction company to seek more volume. Most contractors erroneously define their capacity to perform work solely by the amount of bonding credit that is extended to them. A common complaint is that not enough credit is extended on their behalf, and too much credit is granted to their undercapitalized, underqualified competitors.

Unfortunately, the surety industry is plagued by competitive pressures to respond to requests for larger and larger bond lines.

A better approach is for a company to determine a realistic business volume by asking its surety company for the amount of credit it will extend without personal guarantees. This figure represents a closer approximation of the volume of business that should be pursued.

## RISKY BUSINESS

The relentless quest for volume has turned the construction industry into a risky investment arena. Average returns on equity for the larger firms in the industry are less than 19% — and with risks that are often unacceptably high and uncontrollable. These low returns on already-low equity bases are the result of small to nonexistent profit margins, which, in turn, are due to an oversupply of construction capacity compared to the available supply of construction projects.

The good news is that after 60 years of applying the theories of "Doc" Fails, we are seeing an increasing number of contractors adopt the philosophy that less is more, that profits are more important than volume, and that survival is based on establishing an equity base that can endure inevitable financial reversals.

We've learned a lot in 60 years. And we firmly believe that a primary strategy for the industry over the next 60 years should be to do less volume, but to do it more profitably. Remember: Volume kills, profit thrills. ■

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# Leadership Development Tactics That Actually Work

#16

By Kim Morton and Paige Ferguson

As a leader of your organization, you reluctantly conclude that the current leadership team lacks the necessary skills to bring your organization to the next level. Your company's bottom line and its lowered employee morale are proving that insufficient leadership is causing your organization to suffer as a result. When you look to the next generation of leaders for a breath of fresh air, you find there is a lag in developed leadership skills as well. You would like to retire within the next five to seven years, but who will take over the helm? How do you develop new leaders quickly and effectively enough to ensure that the company will prosper?

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If you find yourself in this situation, you are not alone. Further contributing to the dilemma of insufficient skills is the insufficiency of human resources. The A/E/C industry has recently experienced a difficult recession, forcing many leaders to cut their staff to the bare minimum. After this painful reduction in force, what is left of your key talent may also be close to burnout or underdeveloped in leadership skills. "How do I develop my leaders quickly?" This is a bit of a conundrum. "Development" and "fast" are not the best of companions. Actively taking the right developmental steps can reduce the time substantially that is needed to develop leaders that are more effective. Over the last two decades, FMI's Center for Strategic Leadership has created a list of best practices for developing current and future leaders. Through assessing for talent gaps as well as discovering individual areas of strengths and improvements, these tactics can help achieve a more intentional development plan for individuals and leadership groups (See Exhibit 1).

Exhibit 1
**Leadership Development Tactics**

| |
|---|
| Feedback |
| Mentoring |
| Formal Education |
| Executive Coaching |
| Developmental Assignments |
| Formal Assessments |
| Peer Groups |
| Action Learning |
| Formal Training Programs |

## FEEDBACK

Feedback is a way to help others understand what is working and what is not working with their leadership style. When you give feedback to others, you provide them with information that will help them become more effective leaders. You are helping them gain self-awareness around their strengths and areas for improvement as individuals, which will help them continue to learn and grow within their roles. The key to providing feedback for developmental purposes is to ensure it is constructive. FMI prefers to use the Plus/Delta Model (+/Δ) for giving and receiving feedback because it helps the feedback provider keep the conversation productive. We use the delta symbol because it is the Greek symbol for change. Providing suggestions for how others can change in order to become more effective in their role is much more constructive and helpful than providing negative feedback.

When giving positive feedback (+), you provide your observations around what that person is doing that is positive and validate his or her behavior and what he or she should continue doing. When giving delta feedback (Δ), you offer constructive suggestions on what that person should start or stop doing in order to become even more effective (see Exhibit 2). All feedback you provide should be based on your observations of an employee's behavior, not personal attacks or critiques. Giving and receiving feedback is a great way to develop the leaders around you. The best part is that it is a free development tactic, requiring only observation, thought and time to put it to work for your organization!

Exhibit 2
**Giving and Receiving Feedback**

| + | Δ |
|---|---|
| Positive | Constructive |
| Validating | Start Doing |
| Continue Doing | Stop Doing |

## MENTORING

The mentoring process is an opportunity for a more experienced leader to share wisdom and guidance to a lesser experienced employee to assist in advancing his or her life, career and education. While this development tactic requires a much larger time commitment (up to 12 months), it has proven to be effective in grooming the next generation of leaders. Not only are the mentees exposed to the effective strategies and best practices used by the mentors, but also they may learn about organizational history, operations and ways to advance their careers. The mentors can pass down their hard-earned wisdom while accelerating the mentees' learning, development and career opportunities.

Mentoring is a great leadership development tactic, especially if you have the interest, commitment and resources to set up a program properly. Often, FMI sees mentoring programs fail due to lack of commitment and resources within organizations. However, if these essential pieces are put in place, a mentoring program can be effective and rewarding for all parties involved.

### FORMAL EDUCATION

Formal education is a way to develop specific skills or knowledge necessary for a leadership position. Leaders have a variety of options to obtain these skills, from attending business school to acquiring business acumen skills to enrolling in trade schools to develop technical competencies. Formal education can include seminars, workshops, short courses or extended programs, such as trade schools. The investment provides your current and future leaders with the knowledge, tools and strategies to grow into higher roles within your organization.

> **Executive coaching helps leaders achieve bottom-line business results. It is a powerful process that helps leaders develop greater self-awareness and put a plan in place to leverage their strengths and improve areas for development.**

### EXECUTIVE COACHING

Executive Coaching is a one-on-one collaborative relationship between a paid professional coach and the client, which focuses on equipping the client with the necessary tools to develop him or her further. Executive coaching also helps to facilitate a shift in a leader's knowledge and behavior so he or she is more effective in his or her role. Executive coaching helps leaders achieve bottom-line business results. It is a powerful process that helps leaders develop greater self-awareness and put a plan in place to leverage their strengths and improve areas for development. Leadership can often be a lonely position, and as leaders move up in the organization, they are less likely to have someone who is willing to give them honest, specific feedback. Executive coaches help leaders by guiding them as they work through the issues and challenges that accompany being a leader in this fast-moving industry.

Executive coaching is an effective leadership development tactic, since it is personalized to fit each leader's needs and style. It is also a way to build in accountability for performance and development for that specific person. The average executive coaching engagement consists of monthly calls with the executive coach for approximately six to 12 months. Other programs can include more frequent calls (i.e., weekly or biweekly) as well as face-to-face sessions, and the duration can vary across providers. If your organization has the resources available (time, financial, leaders), this development tactic is sure to provide better results for your leaders.

## DEVELOPMENTAL ASSIGNMENTS

Developmental assignments are a great way to help your leaders learn new knowledge, skills and abilities (KSAs) in the workplace. After identifying the gaps in your leaders' skill sets, seek out or create developmental opportunities in the needed areas. These assignments should focus on helping the individual learn and grow. Also known as stretch assignments, they may push your leaders outside of their comfort zones because the leaders are forced to learn something new. When incorporated correctly, your current and future leaders will begin to fill their gaps in competencies over time, resulting in better performance through stronger KSAs.

**After identifying the gaps in your leaders' skill sets, seek out or create developmental opportunities in the needed areas.**

Responsibility for identifying developmental opportunities and creating developmental assignments often falls to the manager or boss. Although the manager may know what KSAs are required to reach the next rung in leadership, the high potential (or current leader) should also be looking for developmental opportunities for growth. Input from both the manager and the high potential is instrumental in ensuring that the developmental assignment is targeted and beneficial.

## FORMAL ASSESSMENTS

Formal assessments are another way to help leaders gain self-awareness about their leadership style and the impact they have on others. This development tactic is especially helpful because leaders can identify things like personality preferences, strengths to leverage and areas for improvement. FMI uses a variety of assessments. For example, the combination of the Myers-Briggs Type Indicator (MBTI), the Natural Ability Battery (NAB) and a 360°survey can provide a well-rounded set of feedback for a leader. The MBTI provides self-awareness based on personality preferences and how these preferences affect others in the workplace. The NAB provides self-awareness through focusing on the natural abilities you hold and how those influence the way you learn and process information. The 360° survey provides self-awareness on how others view you and your leadership skills in the workplace. Although we highlight these three, there are many other formal assessment tools available to develop self-awareness for leaders.

Formal assessments are one of the best practices for leadership development as they help identify key areas in which to focus improvements for the workplace and in your leadership. It is best to have a certified practitioner compile, analyze and debrief your assessments to gain a full understanding of what the results mean and how to use them to move forward in the future.

### PEER GROUPS

A peer group is a group of individuals who have a common interest (i.e., industry, market, clients) who meet frequently to discuss challenges they are facing, ways to capitalize on opportunities and trends in the marketplace. This leadership development tactic offers current and future leaders the opportunity to learn from different perceptions in the industry. Peer groups provide a forum for leadership-level members to discuss strategies and to connect with others to explore valued perspectives when facing challenges or opportunities. Learning from the experience of others is what makes this development tactic so effective. A peer group also provides a network of leaders you can rely on when you need to learn a new skill or area of the business while also being able to offer your unique wisdom and insight. These groups are formed through assorted associations, consultancies, and/or educational cohorts, formally or informally.

**In action learning, organizations task a group of current and future leaders to solve a real-life challenge they are facing.**

### ACTION LEARNING

Action learning is a newer development tactic that is proving to be effective in the workplace. In action learning, organizations task a group of current and future leaders to solve a real-life challenge they are facing. This group works together to solve the challenge over a specific period, depending on the extent of the challenge. A key piece that differentiates this from developmental assignments is that throughout the process, the leaders intentionally should be reflecting on the lessons learned and the leadership styles in the group. The goal is focused growth in a cohort-style, problem-specific situation.

Action learning creates an environment where leaders can learn from their own experience in a real-life problem. This development tactic is effective because it helps leaders reflect on how well they reacted in the situation, the effectiveness of the strategies they suggested, and the overall process they experienced.

### FORMAL TRAINING PROGRAMS

Formal training programs help to develop the necessary skills for leaders to move up to the next level in your organization. Training program topics can vary greatly, so it is important to focus the education of your leaders on the specific areas where development is most needed. Whether emphasis is on leadership skills, communication, project management or productivity, formal training programs are effective tactics to develop your leaders.

Formal training programs can be a short-term commitment (one day or less) or a longer in length (several months or more). Depending on the needs of the organization, you should seek various types of training opportunities to ensure your leaders are receiving the development required. The most effective internal training programs are those that fall in line with one of the company's core competencies (i.e., skills training). If your leaders need development in an area where you are not an expert, we recommend seeking formal training from an external partner to ensure the development is effective.

## CONCLUSION

The needs of a leadership team vary greatly from organization to organization and these leadership development tactics are presented as different opportunities to increase the effectiveness of leadership development of your team. As a leader of your organization, it is up to you to identify what the right leadership-development tactics are for your leadership team, or to involve people that can help assess for gaps that need to be addressed. Just as development needs can vary between organizations, they also vary for different individuals.

These tactics can be combined to create programs targeted for individuals or for a group (programs for high potentials, as an example). Depending on the structure and size of your leadership team, pursuing development at a group level may be a faster and streamlined approach to developing multiple leaders at a time. At the other end of the spectrum is the more personalized approach to developing leaders one at a time, which provides the individualized track within the organization. Whether individual programs, group programs or a combination of the two are implemented in your organization, the importance of leadership development cannot be overlooked in a time when talent is more difficult to come by and succession plans become more important. Through investing in developing internal talent, an organization can grow its talent pipeline and create a deep bench of effective leaders. ■

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# Sales Presentation Strategy

*By Cynthia Paul and Tyler Pare*

#17

It is 10:00 a.m. on a Tuesday morning, and you and your team are pacing back and forth in the hallway of the university student center. Students pass you, some in a hurry to get to class, others laughing and enjoying a break with friends.

You are about to enter the presentation for a new dorm at the university. Your company has the experience; you have put together what you think is a good estimate and proposal. Now it comes down to knocking them dead with your presentation.

There is much resting on this project. It would be a great addition to your backlog; in fact, it is an essential addition to your backlog. As you wait, you wonder what it really takes to stand out from the competition in the mind of the customer. Your team has 45 minutes to convince the university that your company is the superior choice.

### MORE THAN MEETS THE EYE

A presentation is more than a dog-and-pony show. It is the customer's time to get a feel for your team and how well you understand the project from its perspective. You need to sell the project and demonstrate that you understand it in the detail and complexity needed to add true value.

The team that best can demonstrate those two things in the presentation is the one that typically wins. But what does it take to deliver a great presentation? Effective presentations start long before they are actually created. They start with strategy and pre-positioning.

### COMPREHENSIVE SELECTION

In an effort to shield themselves from the risk exposures inherent in selection processes, owners have developed more sophisticated and comprehensive contract procurement methods. Résumés, approaches, project teams, schedules and a host of other factors now are given increased attention on qualification and awards. In addition to meeting these criteria, contractors often are required to package their selling messages into a formal presentation. When the selection process has reached the presentation stage, much of the aforementioned criteria have been commoditized among the remaining players. The presentation is your company's opportunity to dissolve the client's perception of comparability between you and the competition.

For work that requires a sales presentation, the rationale for resource commitment often is flawed. Contractors invest heavily in the "content" of their proposals. Though loaded with data, the strategy of winning, which should be the central message, rarely receives the attention that it deserves. Contractors will work tirelessly on the numbers, graphs and charts, thinking they will win purely on facts.

> You may have heard the adage, "He could sell a ketchup Popsicle to a woman in white gloves in July."

What if your project team had such a convincing sales message that it could sell a portfolio of medical office building projects to a health care provider looking to expand or renovate a midsize hospital? By creating a compelling sales message and articulating it via a well-planned and rehearsed presentation, you can greatly improve your chances of being selected.

### KNOW THE COMPETITION

Customers buy in a competitive environment. Yours is not the only team in the throes of competition. In reality, it is your laser-pointer-wielding project team that convinces the owner to buy by making the project come to life. But the key is to do so with an eye on what the competition is likely to include. You must anticipate your competitors' level of investment in the project and then beat the market in this aspect.

Competitors' interests come in two primary areas: fit and resources. First, consider your competitors' interest in the job by looking at how it fits with their strategic objectives:

- Specific client
- Geographic location
- Market segment
- Project type, size and location
- Backlog (needs/gaps)
- Core competencies
- Special project requirements

Resources are also essential:

- Project-specific research
- Pre-positioning
- Bench depth of talent available
- Star talent that outshines the competition

> **The presentation is your company's opportunity to dissolve the client's perception of comparability between you and the competition.**

- Cash and financial requirements
- Project funding
- Bonding and insurance requirements
- Delivery methods
- Contractual terms and conditions
- BIM and modeling requirements

## GAME THEORY APPLIED

Winning begins long before you are standing in the hallway waiting your turn to present. It starts with how and why you selected the project to pursue in the first place.

> **Game theory**, in its simplest form, can be described as studying the way in which rational challengers (competitors) interact strategically, based on a set of assumptions, to produce outcomes of variable probability.

Go/no go is the first branch in the decision-making tree of game theory applied to bidding strategy. A sound Go/no-go process should identify:

- Opportunities that are a good fit with your organization's core competencies, within the context of your overall business strategy
- A general understanding of the resources required to win

"To chase or not to chase" should be discrete options. Halfheartedly pursuing an opportunity wastes overhead and destroys your hit rate. Either you believe you can win and commit resources to the pursuit or exit the game (see Exhibit 1).

## GETTING COMPETITIVE

Consciously or otherwise, contractors incorporate a certain level of game theory into their hard-bid strategies on a daily basis. Predict your competitors' costs and margin thresholds and adjust your price accordingly to meet the market. Sound familiar? The game theory application for sales presentations is slightly different from that of responding to bid-and-spec opportunities. In a selling situation, decisions are based more on heuristics than numerical analysis. First, define your competition's ability and commitment to win. Then, based on your company's factors to chase a project, make a strategic decision to pursue the opportunity based on those assumptions. The intent is to rule out emotional bias or clouded judgment in designating resources to a chase.

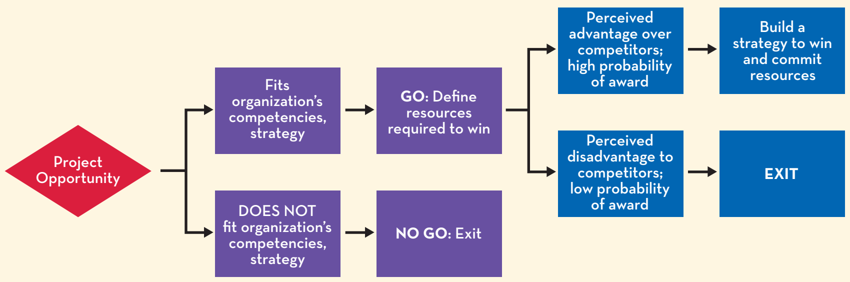
You absolutely need to have a well-thought-out presentation. Equally important is making sure that your team is ready to deliver it.

## MAKE YOUR MOVE

You absolutely need to have a well-thought-out presentation. Equally important is making sure that your team is ready to deliver it. The role of

Exhibit 1

**Go/No Go**




superintendents and project managers is crucial. Much of the presentation is resting on their ability to make the project real in the mind of the customer. Get the superintendents and project managers engaged in the presentation development process early. Too often, they are the last to find out about a presentation and have the least amount of information going into it. These people also tend to be the least comfortable in a presentation situation. Their discomfort can signal lack of competence when that is hardly the case. Very focused roles, well-rehearsed and made real with role-play involving interruptions and questions, can be helpful in overcoming presentation jitters.

Engage in robust practice sessions. Have your team dry run its presentations to tighten the message and add a bit of wow factor to its approach. Practicing will give the team more polish and confidence in how it comes across to the client. Do not let the team procrastinate getting ready. It is too easy to let the advance time slip past, forcing the "practice" to the car ride in route to the university student center.

It is obvious to a client which teams have prepared for the meeting and which teams have not. Clients perceive poor teamwork on a presentation as an omen for how your team will work together on the actual project opportunity. In other words, if your team cannot plan and prepare a concerted 15- to 20-minute presentation, what confidence have you given the client that you are prepared to execute a $15 million to $20 million project? If you are not willing to commit the time and resources to prepare a competitive presentation, you should exit the game before you waste overhead, embarrass your people and dilute your brand. Points of emphasis for team preparation include:

- Overall flow of the presentation
- Pace and cadence of the individual speakers
- Verbal transitions
- Physical handoffs
- Audio/visual choreography

## SWINGING FOR THE BLEACHERS

When it comes to being selected, you want to be first, period. There is no honor in being second. Second and last pays the same, nothing.

You have to take calculated risks to be first. You have to understand the project from the customer's perspective. Know what is important to its team and to the customers it serves. You need to apply all your experience and insights to the project to be able to tell it why your team is the best choice.

Remember, project selection happens in a competitive environment. Your customer knows about your competition and knows their strengths, weaknesses and approaches. In order to beat the competition and be selected, you must build a compelling win strategy on the project, and that is done with an eye on the competition.

Today you have to give the customer a business reason to pick you. The recession has changed the way customers buy. The selection process is conducted with a team of people, all of whom have some input on who is selected. You have to provide them with a purchasing motive that will resonate in the boardroom long after you and your team have gone back to the office. You need a clear and compelling win strategy.

Win strategies are the reasons and logic provided to the customer that convinces it your team is the right one for the project. The most effective presentations do not wait until the actual demonstration to share the best stuff. Look for opportunities to pre-position information, relationships and ideas.

Win strategies, at a minimum, need to answer the following questions:

- How are you the same as the competition?
- What makes you uniquely different?
- What are you offering that ensures a successful project?
- What innovative ideas do you have?
- How can you prove it?

Do not stop with a solid win strategy. Remember that your project managers and superintendents are essential to the presentations. They are going to help make the project real in the mind of the customer. Have them present concrete ways they are going to overcome challenges on the job and make sure the project is successful. Unfortunately, project managers and superintendents are frequently excluded from presentation practice sessions due to their busy schedules on other projects. Whoever is leading the chase should be responsible for providing the project team with the tools, information and preparation time needed to deliver an effective presentation and win the job.

**In order to beat the competition and be selected, you must build a compelling win strategy on the project, and that is done with an eye on the competition.**

### BIG PICTURE

Contract procurement methods have become increasingly comprehensive. Work acquisition in today's markets often requires more than just being a solid contractor (i.e., safe, on time, under budget, high quality). Focus on the differentiators that set your firm apart. Build a selling message around those advantages that align with your customers' business needs. Next, design a strategy for how your project team will communicate that selling message in a presentation and support that strategy with appropriate levels of resource commitment. Keep in mind that commitment of resources is a cost to your organization that you cannot bill. To avoid ballooning your overhead in the name of presentation preparedness, hone your go/no-go process to eliminate projects that you are not serious about pursuing, and quantify what the appropriate level of investment is for the projects that you do chase. A more focused effort on fewer projects will result in more wins, fewer disappointments and, ultimately, a more cost-effective strategy for chasing work. ■

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# Managing Cash Before Earnings

**By Ken Roper**

## #18

"All sins are forgivable except one, and that is running out of cash!" Hank Harris, FMI's president and CEO, has often said when teaching Financial Management for Nonfinancial Managers to construction industry leaders. The quote is even more appropriate as we recover from the Great Recession.

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More companies will fail in an expansionary economy than in a recession. Why is this so? The answer is that growth and expansion take cash to fund growing payrolls and materials while projects are beginning. Building permits are currently at record levels and the construction industry is poised to be a significant contributor to United States GDP growth through 2013 and 2014.

Project teams have many difficult and challenging assignments in the building environment today. Ask, "How many of you are willing to work without a paycheck?" and you resoundingly get a one-word answer (or potentially a multiple-word response, with inclusion of colorful adjectives): "NO!" Fortunately, there are some tools and techniques to ensure everyone gets a paycheck and you have sufficient cash to run your company.

One of the best methods to manage cash is to ensure all finance personnel and project teams understand the concept of the "liquidity indicator." In its simplest definition, the liquidity indicator uses income statement and balance sheet accounts to determine if your work-in-process is providing or using cash. The project liquidity is calculable at both the project and company/business unit levels.

The liquidity indicator for the company tells contractors how much cash operations generates from or is used by Work-In-Process (WIP). The liquidity indicator calculates cash demand using six key balance sheet accounts controlled by project management. These six accounts consist of three current asset accounts: receivables, retention receivable, and cost and earnings in excess of billings; and three current liability accounts: payables, retention payable and billings in excess of costs and earnings on contracts.

The net summation of the current asset accounts less the current liability accounts has three possible outcomes:

- Zero, indicating that the funding and asset accumulation are in balance.
- A positive number, indicating that project execution is consuming cash. That is, the contractor is financing the WIP.
- A negative number, indicating that project execution is generating cash. That is, the owner, combined with other subcontractors and/or vendors, is financing the WIP.

Clearly, a better financial position for contractors is to have the owner and others financing the WIP.

Dividing the account balances of each asset and liability account by the average daily revenue produces the equivalency of a number of days' revenue outstanding for each current asset and current liability account. Average daily revenue is computed by taking the annualized firm revenue and dividing it by 365. The quotient of the current asset or liability account balance divided by annualized revenue returns the average number of days of liquidity either applied to or provided by WIP for each respective account. A contractor can also identify the amount of cash that can be generated with an improvement to the ratio of current assets to current liabilities as well as which accounts offer the greatest opportunity for improvement.

The number of days outstanding can be compared to industry averages for all contractors, which are compiled by the Construction Financial Management Association (CFMA) or Risk Management Associates (RMA), to determine positive and negative comparisons to similar subcontractors. The ranges of days outstanding of accounts receivable and accounts payable for subcontractors within a certain volume range vary significantly within the industry. The goal for your firm should be to rank in the top quartile of firms in this comparison survey. These firms have best-of-class financial management practices.

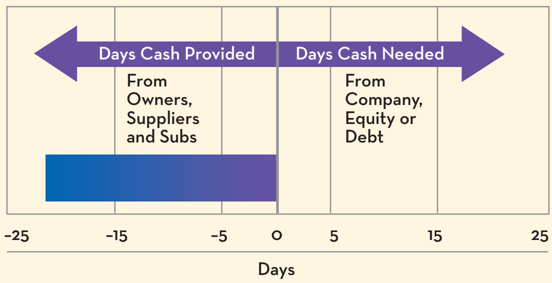
Exhibit 1 shows a subcontractor with annual revenue of $22,120,246, which converts to an average daily revenue of $60,603. If this contractor is able to accelerate overbillings and improve collection of accounts receivable, a net improvement of five average revenue days or, equivalently, $303,015 (five days x $60,603) in generated liquidity would result.

This same subcontractor is generating $1,324,882 from WIP, or 22 average revenue days. The use of trade credit and overbillings has allowed the contractor to reach a position whereby other people's money (i.e., owners, vendors and subsubcontractors) is financing the WIP.

This same calculation applies to an individual project (see Exhibit 2). The days are not necessary to this analysis. The individual project accounts receivable, retention receivable and underbilling are totaled. This represents the "Cash Demand" from the project. The accounts payable, retention payable and the over billing for the project are totaled and deducted from the cash demand for the project. If the sum is negative, then the project is generating that amount of cash. If the sum is zero or positive, then the project is using cash. In Exhibit 2, cash in the amount of $55,500 is being provided from this project.

Exhibit 1

**Liquidity Indicator**




| Contractor Revenue | $22,120,246 | RMA* | | | |
|---|---|---|---|---|---|
| **Assets** | **Account Balance** | **Days by Account** | **Top 1/4** | **Median** | **Lower 1/4** |
| Accounts Receivable | $1,727,898 | 29 | 59 | 76 | 93 |
| Retainage Receivable | 1,443,366 | 24 | ** | ** | ** |
| Underbillings | 508,351 | 8 | ** | ** | ** |
| **Cash Conversion** | **3,679,615** | **61** | | | |
| **Liabilities** | **Account Balance** | **Days by Account** | **Top 1/4** | **Median** | **Lower 1/4** |
| Accounts Payable | $2,027,022 | 33 | 19 | 29 | 45 |
| Accounts Payable Retainage | 1,726,652 | 28 | ** | ** | ** |
| Overbillings | 1,250,823 | 22 | ** | ** | ** |
| **Cash Funding** | **5,004,497** | **83** | | | |
| **Total Cash/Days** (Provided/needed) | **–1,324,882** | **–22** | | | |

* Risk Management Associates

## TEN TECHNIQUES TO ACCELERATE CASH GENERATION

**1. Negotiate aggressive payments through an aggressive schedule of values up front in your contract.** You are not in business to fund projects. The risk return relationships in your company are unfavorable enough without including the financial risk and cost of funding the owner's project. For some reason, everyone likes to argue with this premise. The successful contractors are negotiating aggressive schedules of values and not making excuses. If you are not doing the same, then you might consider changing your thinking around this practice.

**2. Bill and collect.** Your job is to see that project billings are timely, accurate and consistent with the terms of the contract. A delayed, inaccurate or inconsistent invoice will cause most of the problems with a contractor's cash flow.

**3. Go ugly early.** This is a phrase regarding how collecting money never gets easier, and the lack of noise on your part trains the people paying how to treat you. Aggressive collection efforts at the inception of the project show the owners you are watching payments and that they matter on the project.

**4. Do your due diligence on projects and clients.** Many large financial investments are made without any checks of creditworthiness or proper funding of projects. If you have failed here, you do not have an excuse when the cash runs out. It is an easy and necessary step as well as a good practice to follow.

**5. Do great work.** Many collection issues are camouflaged performance issues. A contractor that performs excellent work provides great service and has discipline around billing and collecting is quickly paid. Settle change orders quickly. By following the terms of the contract and proactively managing the change order process, you can avoid significant adjustments at the end of the project.

Exhibit 2

**Project Liquidity Indicator**

| | |
|---|---|
| **Contract Amount** | **$3,500,000** |
| **Assets** | |
| Accounts Receivable | 175,000 |
| Retainage Receivable | 27,500 |
| Underbillings | – |
| Cash Conversion on the Project | **$202,500** |
| **Liabilities** | |
| Accounts Payable | 95,000 |
| Accounts Payable – Retention | 18,000 |
| Overbillings | 145,000 |
| Cash Funding from the Project | **$258,000** |
| **Cash (Provided) Used on the Project** | **-$55,500** |

**6. Communicate, communicate and communicate with your owners.** Most owners and parties to contracts are reasonable. Construction is about a constantly dynamic and changing environment and experienced people understand the process. Being candid and early in options and benefits provides those with vested interests opportunities to participate in the decision process. You are more likely to have successful outcomes by over-communicating than undercommunicating. Take advantage of every opportunity to demonstrate your knowledge of the process and options along the way.

**7. Know how to negotiate.** My son-in-law has been a project manager for a general contractor for the past eight years and has never received any training on negotiating skills. Negotiating change orders, schedule dates, cost adjustments and numerous other aspects of the construction process involves constant trade-offs. Project managers are constantly negotiating.

**8. Submit to arbitration in the contract.** This process is far better and more cost-effective than legal action. Appointing an arbitrator and submitting to arbitration in advance are preferable to litigation. You will be further ahead using this method of resolving differences.

**9. Retain a construction attorney to collect.** This is your last resort. Very few contractors leave the courtroom saying, "Man, I am glad I did that!" Avoid the legal route since the process is extremely slow and expensive. No one wins here.

Project management is a difficult job. All aspects are challenging in today's construction environment, but tools like the Liquidity Indicator facilitate understanding and application of sound financial management for project managers. The three key roles for successful project management include building the project correctly, managing the cost to earn a profit and ensuring the cash flow is positive from the building process. The tools and ideas in this lesson will help with your final role in the project execution process. ■

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# On the Origin of Species: The Project Manager

By Gregg Schoppman

#19

A long-standing joke in the industry says the project manager evolved as the solution to the mounds of paperwork a superintendent encounters. Today the number of contractors that do not have some semblance of a project management corps is minimal. In fact, project managers drive the operations within many firms, exchanging their image of old as the replaceable paper pusher.

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Construction management and engineering programs throughout the universities of the world have developed curricula to educate and train future project leaders on everything from change order management to scheduling. However, what does the future of project management hold? Will the skills of today's project manager be satisfactory as the complement to the field manager? Will a new model of project management be required for firms to adopt as new business models in construction arise?

## EXAMINATION

Project managers became the custodians of the "business side" of the construction project, enabling the superintendents or foremen to build. What began as an office transition for many blue-collar supervisors shifted to universities as the fertile ground for growing future managers. Today many trade contractors still use "star field leaders" as a cadre of project managers. The advent of the digital age and the computer talents of many younger managers aided the evolution. For years, engineering and building construction programs equipped managers with a standard "toolbox" of basic knowledge to enter the world of construction. However, the largest criticism of this management group was its apparent lack of real-world construction knowledge. While highly unscientific in its description, many project managers could navigate the most high-tech software with reckless abandon, but could scarcely find their way around the formwork of a multistory building. The more sophisticated firms dedicated time and resources to bring the field to these engineers and managers, through on-site mentoring by more senior field managers. Other firms lacked the depth and sensibilities to grow their managers effectively.

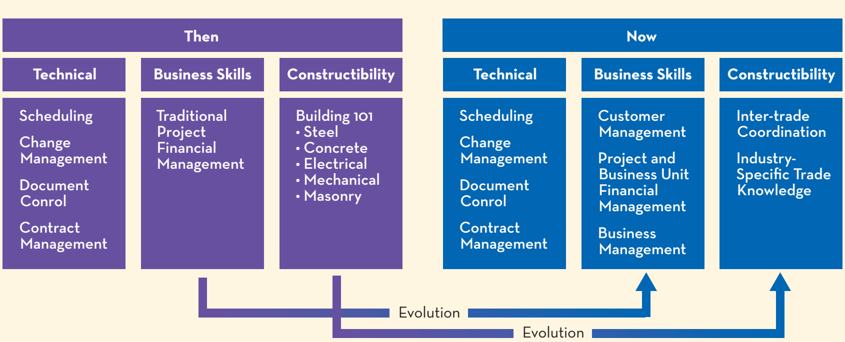
During construction booms, it was all contractors could do to keep their projects adequately staffed. More often than not, projects were being led by greenhorns with little or no experience, learning through on-the-job training. This often led to poor office/field relations, weak client management, inadequate change order management and, on many occasions, margin erosion. If it were not for strong field supervision, many firms would have experienced more catastrophic failures.

What did the industry learn from this phenomenon? A project may be able to overcome a weak project manager, but it requires strong field leadership to be successful. If nothing else, it demonstrated the value of strong, front-line leadership. However, in an industry of aging field workers and an already apparent shortage of qualified assets, will there be a population of field managers capable and willing to lead projects in the future?

## EVOLUTION

Schools and colleges have begun to stress the importance of balance in their curriculum. Practical training and genuine field experience have bolstered traditional technical subjects, such as scheduling and general construction material knowledge. While many of the core technical skills did not change in their fundamental approach, many managers learned more in the key areas of business management and hands-on constructability. Exhibit 1 illustrates the evolution that many students experienced in their educational experience. Ultimately, educators have determined that the balance most often comes in the form of project/firm management, hard/soft skill education and technical/business fundamentals. For instance, understanding a job cost report is equally as important as understanding the income statement. Simply knowing the strength of a wide-flanged steel beam

Exhibit 1
**Evolution of the Project Management Curriculum**



was not enough — managers were expected to understand the safest erection process and how it influenced other trades. Furthermore, emphasis on the human element — managing people as well as the customer — has grown significantly. Personality-profiling systems became as important as strong résumés and reference checks. Employers have come to realize that the personal interactions their managers have with peers, subordinates, trade partners and external customers are one of their most important responsibilities.

**Employers have come to realize that the personal interactions their managers have with peers, subordinates, trade partners and external customers are one of their most important responsibilities.**

Long after the lessons of the classroom, the firm also evolved in its approach to using the project manager. Best-of-class firms used the manager as the customer-focused arm of the business. The greatest project managers were those who best could engage customers, trade contractors, suppliers and tradespeople. The strongest managers were graded less on their technical acumen and more on their prowess with people. In a field predicated on its hard skills, it appeared that the best managers were those who understood the soft skills of psychology and sociology. In fact, industry leaders define the best project managers by their ability to communicate, plan and think like businesspeople, simultaneously, through:

- **Communication.** The manager has the ability to communicate to any audience and articulate an appropriate message. More importantly, the true project leader has the ability to listen and process an appropriate response.
- **Planning.** The manager is diligent about proactively constructing a plan balanced in realism and strategy.
- **Business Acumen.** The manager has an affinity for not only making money and understanding the world of finance, but also managing both internal and external customers.

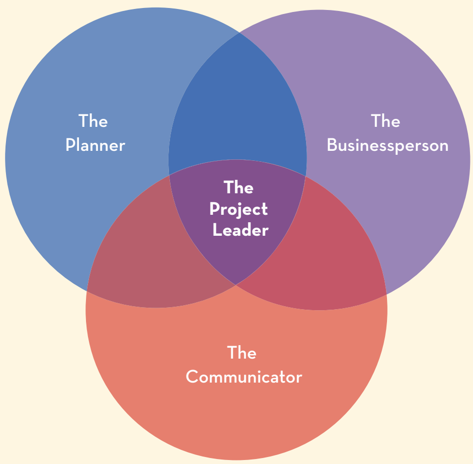
The intersection of these three skill sets is defined by FMI as the "Project Leader," as shown in Exhibit 2. While some managers may be able to effectively plan or communicate, the project leader does these in trinity.

This model is not limited to the sphere of project management. The construction world saw the emergence of true project leaders in the field. Firms that employed superintendents who took an active role in these three areas dramatically improved their performance. While these leading superintendents would hardly be confused for accountants, they understand earned value, job cost feedback and, most importantly, their connection to the customer. Today's and tomorrow's superintendents will not be defined simply by a limited set of construction skills and knowledge.

The integration of these newly defined roles has presented many firms with an interesting conundrum: to give project managers more real-world construction experience while providing superintendents soft and business skills. The traditional training practices of most firms are grossly inadequate to support the appropriate level of development required, especially in the face of shrunken training budgets, ailing economies and project teams stressed simply to accomplish project goals. Furthermore, the evolution of these roles is exacerbated by an aging field workforce and a distinct shortage of field leaders capable and willing to lead. It is not uncommon to hear a president or CEO lament about its firm's inability to find good help, in particular great field leadership.

Exhibit 2

**The Project Leader**




Best-of-class firms have recognized this challenge and developed a proactive plan to grow talent rather than depend on their ability to acquire "free agents." Exhibit 3 depicts a clear trajectory.

As simple as this progression appears, the key is firm discipline. Too often firms accelerate the timetable because of personnel needs in the short term. Arguably, the greatest benefit is creating a cadre of talent that is versatile. It also allows newer associates to choose their paths, with applicable guidance from senior management, that are best-suited to their personalities, talents and long-term future. There are countless instances where college graduates gravitate towards project management because they feel this is the quicker path to the top, even when their heart screams for the field. Ultimately, this form of career pathing addresses future shortages while giving greater opportunities to future managers, estimators and superintendents. It will become commonplace in the future to see more degreed superintendents rather than traditional blue- or gray-collar workers. The key to success will lie in the firm's ability to continue to provide platforms and growth engines for talent development.

Exhibit 3

**Talent Development**

## ADAPTATION

As firms wrestle with new paradigms, such as integrated project delivery, building information modeling, public/private partnerships and modularization, the role of the project manager will not remain static. Much like professional and collegiate football offenses have redefined the role of the quarterback in the faster and more physical leagues, project managers also will adapt. There will continue to be firms that employ traditional project managers and field supervision. However, the best-of-class organizations will have a staff of nimble business managers adept at directing traffic in the field while understanding the nuances of financial management.

**The best-of-class organizations will have a staff of nimble business managers adept at directing traffic in the field while understanding the nuances of financial management.**

Tomorrow's firms will have managers and superintendents who work in tandem, but each will need to be more technically savvy and maintain a much higher emotional IQ to enable better management of the people side of the business as well as that of the customer. Additionally, firms that have some semblance of structured development will cope with the coming scarcity of labor the industry is sure to face. Even if no one is sure of the origin of the project manager, the fittest firms of the future will not simply have project managers but true leaders in the industry. ■

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# Six Steps to Successful Management Succession

By Jake Appelman and Matt Kennedy

#20

When leadership transitions from one generation to the next, the resulting transfer of power, influence and wealth can bring a turbulent combination of fear, anxiety, anticipation and hope. This has been true since ancient times.

When Alexander the Great fell ill at 33 years old after conquering the known world from Europe to Asia, he had no successor. On his deathbed he famously declared, "The strongest" would inherit his title. His final words were, "I foresee a great funeral contest over me." His prophecy came true, and the resulting "funeral games," where his marshals battled ruthlessly over control of his empire, lasted for nearly 40 years.

Succession planning is particularly significant for the engineering and construction industry due to a combination of forces, including mass retirement of the baby-boom generation, perception of the industry as less desirable than other more glamorous fields, and the residual impact of the long recession on young talent. However, recognizing these trends is much easier than responding to them. The process of succession planning should not be a singular event; leaders instead should embed it deeply in the culture and talent development processes in the company, starting with a clear organizational vision.

FMI's experience shows that effective succession planning requires adhering to a well-defined, six-step process, as seen in Exhibit 1.

Many construction companies wrestling with succession planning jump straight to Step 4: Evaluate the organizational candidates. If you have fallen into this situation, you are not alone. While this leap is understandable, it misses opportunities to prepare the business and its leaders for even greater success. The ultimate objectives of your succession planning process should be 1) the maximum gain from the leadership transition, with 2) minimal loss of domain knowledge and organizational capability. In order to fulfill these two key objectives, you must start at the beginning.

> **The ultimate objectives of your succession planning process should be 1) the maximum gain from the leadership transition, with 2) minimal loss of domain knowledge and organizational capability.**

### 1. CLARIFY THE ORGANIZATION'S VISION

A clear organizational vision rich in its understanding of company culture and history that is shared among the entire company is the foundation of an effective management succession process. Great construction businesses with the desire to endure for multiple generations know who they are (defined by core purpose and core values) and where they want to go (defined by an envisioned future projected out 10–20 years). The values and purpose provide a key to understanding the organization's culture and are a litmus test for true alignment among the leadership team. Establishing or clarifying such a vision is also an important step in transitioning foundational company history from the current leadership to the successors. A clear vision creates alignment across the future senior leadership team and develops additional internal champions to drive the vision throughout the organization. Without a shared vision, the company may lack the solid foundation for continuing what has made the business successful to this point, such as developing business strategies and assessing talent. Done well, a clear vision creates alignment, stability and motivation for the challenging organizational work ahead.

### 2. DEVELOP BUSINESS STRATEGIES AND OBJECTIVES

Having a clear vision is important, but by itself, it is not enough. Leaders must take action today to make the vision come to reality. Senior leaders must understand how the business will compete and win during the next five years in order to take the first step toward achieving its 20-year vision. The power of having a clear vision is that once the company has achieved its five-year strategy, the next five-year strategy will build on the first. Most businesses without a clear vision

Exhibit 1
**Six-Step Succession Planning Process**

pursue disconnected strategies every five years, without the possibility of realizing what they could accomplish with a clear, long-term goal.

A solid foundation for strategy must be built on market research, customer understanding, competitor analysis and a candid organizational assessment. The strategy must not be too rigid, but remain flexible to adjust to changing conditions, internally or externally. It must be grounded in research that does not end with the current strategic plan, but continues throughout the next five years and even further into the future as a perpetual process. The continued analysis will help leaders build greater understanding of the current environment and prepare for the next phase of achieving the overall vision.

### 3. IDENTIFY LEADERSHIP REQUIREMENTS

Only with a clear vision and strategy can the company begin to piece together what leadership will be required today and in the future to achieve success. The next move is to an organizational assessment, which asks fundamental questions such as:

- How does the organizational structure currently function?
- Are there immediate changes required to fulfill the strategy?
- What are the long-term changes required to achieve the vision?

Effective succession plans take time to design the organization to maximize how it will function most effectively, without regard for the current leadership. Once designed for the immediate need, plan for what the business should look like 20 years from now. This will be a tremendous asset in building your development plans as you survey how leading the company 20 years from now will be different than leading it today.

**A solid foundation for strategy must be built on market research, customer understanding, competitor analysis and a candid organizational assessment.**

With the new organizational design, you can identify which leadership traits, competencies and skills are required to implement the current business strategy successfully. Do a brief assessment: An engineering and construction business executing a strategy to move into new markets will require a completely different set of leadership skills than one that is well-positioned and acquiring market share in a current strong market. The first approach may require outside technical expertise and a résumé of work to gain credibility with potential clients. The other strategy requires a leadership team focused on executing and driving performance to maximize the current position. Identifying the leadership requirements will necessitate a balance and tradeoff by taking into account what is required today to execute the current strategy, while also building the leaders of the future to achieve the long-term vision of the organization.

### 4. EVALUATE THE ORGANIZATION AND CANDIDATES

As leaders begin to assess potential candidates within the company, they must view the organization's enduring success as the first priority. Inevitably, there will be tough decisions, but as long as leaders are making choices in the best interests of the company, without disregarding the impact on the individuals, it will make these decisions easier. Candidly assess the company and the candidates against the necessary leadership requirements for achieving the current strategy and long-term vision. This is the gap analysis — what we need versus what we have for both today and the future. Through the evaluation of individual leadership candidates, the firm can identify gaps among the designated talent pool for succession. Any gaps identified among a large percentage of the candidate pool might be a warning sign that requires additional attention.

This individual and organizational gap analysis can also lead to a root cause analysis as to how the gaps developed in the first place. Plan for the unexpected and create a potential talent pool equal to twice what your company needs. You will lose candidates for a host of reasons, and if there are not enough in the development process, then you will have to identify and develop new talent on an abbreviated timeline. This is not in the best interest of the company nor the candidates.

**Through the evaluation of individual leadership candidates, the firm can identify gaps among the designated talent pool for succession.**

### 5. CREATE A DEVELOPMENT PROCESS

Build upon the current team's effectiveness and leadership capabilities to achieve the organization's long-term vision. Intentional and individual development of a candidate pool ensures that the necessary talent is available and at the highest level of preparedness when called upon. Most companies haphazardly prepare their next generations of leadership. Training events occur only when project demands allow it and most development is opportunistic versus highly planned. Just as the organization must develop a long-term vision, individuals need to work toward a long-term development goal that yields a return on investment.

The model of personal, purposeful and intentional talent development helps to clarify what this process should look like. Each candidate should have a personal program designed to maximize his or her potential growth. It should be intentional in that it develops his or her capabilities with the organization's goals in mind. The team member is developing a skill or ability to fulfill the current strategy or the long-term vision of the business. The overall program must be intentional in that it is updated continuously to ensure the best possible outcome for both the organization and the individual. Imagine a group of leaders working through an intentional development process focused on their needs, and then consider how each of the individuals' increased performance will affect the overall performance of the company. That positive impact begins almost immediately as each skill improved is put to use within the organization to get results today.

### 6. OUTLINE AND IMPLEMENT THE TRANSITION PLAN

Succession planning should happen well in advance of anticipated changes. Leverage the experience of the current leaders to define and explain how a methodical transition would be executed. Do emergency planning on the short list of essential transition items. Once the plan is built, it can be adjusted based on situational needs. The process of planning the transition is as important as the plan itself. It will force leaders to think through the responsibilities of their current roles and may answer key questions such as: What can be delegated for the development of my people? What am I not doing that they should be doing? How can we phase the transition to ease my successor into position?

**The process of planning the transition is as important as the plan itself.**

As the appropriate time for transition approaches, refine the initial plan and implement the transition. No candidate will be perfect, but if the organization has followed this six-step process, there will be a pool of candidates that are much better prepared when the transition must take place.

### CONCLUSION

Succession is, at its heart, about change, and therefore it is rarely easy and comes with many challenges — financial, operational, cultural and especially emotional. Negotiating these challenges requires leaders who see themselves as stewards of their businesses for future generations and dedicated teams willing to execute on the daily, disciplined hard work of making talent development a part of the culture. ■

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# Tenets of Transfer

By Tim Sznewajs

# #21

The size and breadth of the construction market dictate that it is always undergoing constant change. The trends and realities of ownership transfer are not immune to this constancy of change.

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In fact, FMI's recent survey of construction company owners (2012) illustrates a dramatic shift in ownership issues. Some themes that FMI garnered from this survey include:

- **Baby boomers own more than 84% of the firms we surveyed. And these owners are working longer.** Fifty-two percent of owners responding to the survey were 47 to 60 years old, and 32% were older than 60. This latter group represents an increase of more than 20% from five years ago.
- **Most construction company owners plan to transition the ownership of their firm internally to their employees, but it is taking longer.** Sixty-six percent of respondents indicated that their company's return on equity declined since 2008. More than 33% saw declines of more than 20%. With lower levels of profitability, transitioning businesses internally takes more time.
- **Talent is vital.** More than half of the owners (52%) indicated that they do not have a team of managers that could easily replace them in their absence. Fifty-six percent of owners do not have a formal plan to transition themselves out of managing the business.
- **Owners are increasing their reliance on third-party sales, and many will not find a buyer.** Seventeen percent of respondents are relying on a third-party sale as part of their exit strategy. This is up nearly 50% from FMI's 2007 study. When combined with the aforementioned lack of depth at the management level — a key factor for many buyers — many of these companies will find that a third-party sale will be problematic.

FMI's Investment Banking Group has assisted thousands of contractors in planning and executing the transfer of their businesses. While each of these transactions is different, the fundamental tenets of ownership transfer and succession planning remain the same. Whether a company is contemplating an immediate internal sale of the shares of its construction business, or has the luxury to plan orderly for such succession, these tenets can be helpful to avoid the pitfalls that have tested others. Here is a broad treatment of important issues to consider:

**Align future ownership with future management responsibility.**

The most successful internal sales occur to those individuals who have a meaningful and direct impact on the day-to-day operations and profitability of the firm. Business owners understand the direct correlation between ownership and accountability within a privately held business, and any ownership transfer plan should seek to create and harness this powerful link.

**Shared leadership and business philosophies lead to successful outcomes.**

Alignment around management philosophy and objectives is crucial. Ensure that future owners and leaders of the firm are in agreement with current ownership on key issues, such as operating objectives, a shared focus on similar key financial metrics and culture/people management. Once this foundation has been laid, the company and its advisors can select the proper structure to meet the objectives and needs of the organization and plan participants. The internal transfer process must serve the company and its shared values — do not try to fit a sale process that has worked in other situations into a transaction structure just because that is the most familiar or most easily understood method. Internal sales are much more likely to succeed when shared goals drive the process and transaction structure, rather than the other way around.

**Just like in a construction project, internal sale plans invariably encounter unanticipated bumps in the road, both bad and good.**

**Prepare for the unexpected.**

Just like in a construction project, internal sale plans invariably encounter unanticipated bumps in the road, both bad and good. Bad jobs, unforeseen market conditions, personnel departures— none of these can be planned for with precision, but variations will likely occur at some point. Build flexibility into your plan to accommodate necessary course corrections.

**Profitability is essential.**

Employees typically do not have the financial resources to purchase the company's stock, so the buyout money will be funded by the future profits of the business. If a company is profitable, almost any internal transfer technique will work. If the company does not make money, ownership transition will not occur unless the owners are willing to give the firm away. Indeed, if the company is not profitable, where is the incentive to acquire future ownership?

**Approach strategic initiatives involving the use of capital cautiously.**

A timely ownership transition will impose cash-flow constraints upon the company, which will, by definition, limit strategic objectives. Before any transition begins, ensure that all key participants in the business agree to the long-term strategy, and that the strategic objectives can be accommodated in conjunction with the adopted ownership transfer plan.

**The earnings capability of the business and the owner's time frame for exit drive the value.**

By assuming a closed-loop process where employees are only able to contribute a limited amount of the purchase price, the buyout will be funded overwhelmingly by earnings. Therefore, the value a selling shareholder can receive is simply a function of the amount of time allotted for the buyout and the amount of earnings generated during that time. Theoretical valuations and a seller's monetary desires are important, but they are just that — theories and desires. Stay grounded in reality and manage expectations accordingly.

Internal sales to key employees or family require hard work and can be time-consuming. However, they prove to be a rewarding alternative for many construction companies. With the condition of the current construction economy, planning for and developing an internal ownership transfer plan is a more important alternative than ever. ■

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# Developing a Profit Attitude

**By Rick Tison**

# #22

We have all watched a sports team — professional, collegiate or otherwise — play to conserve a lead and lose as a result. Announcers typically offer the same response: "The team was playing to not lose, instead of playing to win." As fans, we can only watch as this happens and acknowledge the fact that our favorite team's players or coaches did not bring a winning attitude to closing out the game.

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Based on FMI's experience working with contracting organizations during the past 60 years, the difference between firms that consistently earn a solid profit and those that fluctuate with the industry, economy or the weather is more often the result of attitude than strategy, processes or systems.

Firms that operate with a profit attitude view the high risks and low margins of construction differently than other firms. They accept the challenges inherent in the contracting business and look for ways to increase their overall profitability by delivering better value to their clients. They approach their initial estimates as the minimum standard of performance on a job, instead of the optimal target. Instead of executing projects to protect margin, firms with a profit attitude seek out opportunities to expand that margin in a way that also benefits their customer. In an industry already operating with a shortage of margin and no lack of risk, the motivation to develop a profit attitude should not be hard to find. Nevertheless, too few contractors exhibit such an attitude.

Firms cite a number of common roadblocks that are obstacles to consistent performance and development of a profit attitude. Chief among those concerns in today's world is the economy. The past five years have challenged the construction industry more than most other industries. While conditions are certainly improving, many firms have a hard time identifying that improvement in their P&Ls. In most markets, the overall volume of work being performed has declined, while the number of firms pursuing it has not. How can a firm expect to achieve excess profits in a buyers' market such as this?

Nevertheless, there are firms enjoying their best years. Companies with strong profit margins are looking for ways to push them even higher. While all firms must endure the realities of the current economy, not all of them allow that to affect their performance equally. While we are challenged with a down market, that is not an excuse to accept a down year.

**While all firms must endure the realities of the current economy, not all of them allow that to affect their performance equally.**

In addition to external challenges, the mind of a contractor offers a set of unique challenges that hold back some firms from developing and executing on a profit attitude. First is the simple fact that the mind of a contractor is often that of a builder first and then of a businessperson second, if at all. This can lead firms to take on jobs based more on what they are building than on their ability to achieve a profit in doing so. Compounding this problem is the industrywide distaste for processes and systems. While there is such a thing as too much process, FMI's experience is that contractors rarely end up on that side of the aisle. Instead, many firms operate with as many ways to run a project as project managers.

Firms with a profit attitude, on the other hand, overcome these constraints and instill sound business principles and practices throughout their businesses. Developing such an attitude requires a holistic approach. Firms that have developed a profit attitude exhibit it in their strategy and project selection as well as in their project planning, execution and closeout. Accomplishing this requires project managers and superintendents who behave as businesspeople, not just builders. Operating with a profit attitude requires knowledge of what drives profitability on a project and a sense of ownership over the ultimate success and profitability of a project from the CEO to the superintendent.

**Strategy is nothing more than understanding the situation your firm faces, then deciding and delivering appropriate response.**

Simply put, strategy is nothing more than understanding the situation your firm faces, then deciding and delivering appropriate response. In the context of a construction business, strategy informs which customers and markets a firm will pursue in which geographies and the services it will provide. Firms with a profit-seeking attitude, as opposed to a profit-protecting one, search for opportunities where they have a true source of differentiation that customers are willing to pay a premium for. Such differentiation is based on unique skills and capabilities that competitors cannot easily replicate. Those circumstances create opportunities where only a few firms can successfully compete, limiting the disastrous impact of competition on margins and the opportunity to seek higher margins than are seen in the industry as a whole.

A profit attitude is also evident in the contracting methods or delivery systems of the projects that a firm selects to pursue and those it does not. Firms that wish to develop job profits in excess of their estimate often seek out lump-sum, fixed price projects as opposed to cost-plus or construction management arrangements. The benefits of project improvement vary significantly between the two, with the benefits of the former going to the contractor and those of the latter going to the owner. Without the opportunity to reap the rewards of improved job performance, what is going to drive a contractor to improve performance?

**No amount of procedure or process will make up for poorly performing people, nor will lack thereof stop star performers from getting the job done right and on time.**

In order to reap those benefits, the contractor must perform. Otherwise, the firm is simply increasing its risk without improving its likely reward. Managing the added risk to achieve added reward requires effective project planning, execution and closeout processes. Based on FMI's experience, there is no better way to ensure project performance than through continuous planning, which puts the right resources in the right place at the right time to keep projects on or ahead of schedule. Firms that consistently perform on projects genuinely engage in five core practices: pre-job planning, short-interval planning, daily huddles, exit strategy and post-job reviews. These practices, when executed consistently and genuinely, ensure that the firm is continuously planning throughout its projects. They are the building blocks of productivity and profitability.

The last and most important element of developing a profit attitude is the people in your firm. At the end of the day, the construction business is a people business. No amount of procedure or process will make up for poorly performing people, nor will lack thereof stop star performers from getting the job done right and on time. Firms that have developed a profit attitude have project managers and superintendents who are as comfortable operating as businesspeople as they are as builders. The skills of a businessperson go beyond the technical expertise of how to build the project into understanding how contract terms and progress billings affect the profitability of the job. Furthermore, project managers and superintendents in firms that have developed a profit attitude take ownership over the project. They do not come to work simply to observe as a project is built. Instead, these project leaders fully understand the impact their actions and leadership have on the success of a project and go out of their way to solve challenges that threaten to jeopardize that success.

At the end of the day, the success of the project for your firm is not simply a matter of meeting the schedule. The ultimate success or failure of a project is how well it performed financially. ■

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# Sales Is Not a Dirty Word

*By Steve Darnell and Cynthia Paul*

# #23

Ask a packed room of industry professionals who wants to be a salesperson, and only a few hands sheepishly will go up. There is much confusion today about the role and need for sales. Many contractors, engineers and architects are moving into a seller-doer model. Some are working hard to strengthen their customer-focused culture. Regardless of what "sales" is called, industry firms are embracing the customer and focusing on how they win profitable work.

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The funny thing is, no one wants to be called a salesperson — not business development, project executives, pre-construction, estimating, superintendents or even the president. Yet everyone will be quick to espouse the importance of sales to the company's long-term health. The top line on the financial statement says "Sales." Somebody has to sell a project before anyone in the firm can get a bonus. Call them what you want, but every firm needs salespeople.

It is not a bad thing to be a salesperson; it is just the industry is a bit embarrassed to be part of the process.

The real source of power in any organization comes from the relationship with the customer — the external focus of the firm. Salespeople should be recognized and supported. Instead, they are frequently treated as the proverbial redheaded stepchild at the family reunion.

Logic would tell you that everyone else in the firm should support sales. The company would be a big fireplace where the salesperson can come in from a hard day in the field to dry his or her boots before striking out again, before first light.

## SALES BY A DIFFERENT NAME

In the construction industry, salespeople are often referred to as other things, such as "rainmakers." Good salespeople are usually tolerated in the organization and paid well because they are scarce. You may have heard the old rule of thumb, "80% of sales come from 20% of your people."

Good salespersons are even rarer in construction because most of them are seller/doers —technical experts who are developers and maintainers of client relationships. A seller/doer must provide superior service. Doing begets selling and vice versa. Sales is a role in the company, not a job title.

Clients must never perceive they are being "sold something." A good salesperson helps them buy. That means helping customers make good decisions about what and how they are buying construction services. Salespeople are listeners, problem-solvers and educators.

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

Helping a client to buy means guiding it through the decision-making process. Sales is not about pushing a customer to pick you and your organization; no one wants to be pushed. Selling is a bit like fishing. You have to present the right bait in an attractive manner in order to get a bite; knowledge and patience are required. You cannot make a fish bite, just as you cannot make a client buy. Learn to think through the buying process from the perspective of the customer. Explore with the client what the business purpose of the project is and how that defines a successful project. Your job is to help the client make an informed decision.

## GOOD SALESPEOPLE ARE OUT THERE

Good salespeople are hard to find. They must have deep technical expertise, know how to read people and build value. They need to understand construction and the selling process. However, that is just the beginning of what a salesperson needs to be successful. Salespeople should also:

- **Have a rare combination of behavioral traits**, such as being assertive, qualitative, empathetic, intense and likeable by clients and your team.
- **Be visionaries** by keeping their eyes on trends.
- **Be experts** in their technical knowledge and industry conversancy.
- **Be marketing-minded** by knowing how to make the phone ring.
- **Have a solid reputation** in the industry. Today salespeople need to be almost famous in their field.
- **Maintain relationships** after the first project.
- **Be likeable.** Clients work with people they like.
- **Act as a learned peer**, not as a subordinate to the client, by bringing a different set of skills but an equal amount of value.

- **Have intellectual breadth** and be able to converse on the industry as well as on a variety of other topics.
- **Be direct** by providing feedback without unnecessarily ruffling feathers. Many customers need and appreciate candor.
- **Act as counselors, coaches and guides.** Walk the path with the customer and know selling is not something that is "done" to the client.
- **Possess a sense of humor.** They can laugh at the natural stresses in business and at themselves.
- **Make phone calls** and return messages promptly.
- **Work hard.** Clients appreciate hard work over all else. Salespeople are not afraid of working hard. They will roll up their sleeves and dig in to help. They will work behind the scenes getting information ready for a customer.
- **Follow up with clients** by being organized and good at keeping track of commitments and conversations.
- **Focus on quality** by guaranteeing the value promised in the selling process and working to ensure it is delivered consistently.
- **Be empathetic** and look at the world through the customers' eyes.
- **Get involved** by engaging in in the industry and their firm. They have a point of view about what needs to happen and controls the outcome.
- **Show loyalty** to clients and colleagues by keeping confidences while supporting people and ideas.
- **Have delegation skills.** Because successful salespeople strongly want to control outcomes, skills in delegating may not come naturally, but effective salespeople work toward skill improvement.

Then there are those rare individuals who make huge contributions to their own companies and customers. These are a different breed of salesperson altogether. These are the elephant hunters. They are the ones in the know and are able to find and win significant customers and projects. They have all the skills above, but they also:

- **Have an acute sense of smell.** They know the deals to chase, but also how much to invest, who else to get involved in order to ensure success. They are not afraid to walk away if an opportunity loses its shine.
- **Know when to say no.** It is easy to get over-committed — internally and externally. They have a good sense of when they should engage in a new venture and when their plate is full enough. If they get too busy, they know there is a risk of missing commitments.
- **Have more than a bread-and-butter focus.** They are willing to take a risk without a firm commitment of the outcome.
- **Know the value of services.** Super-salespeople value the services their company provides and educates the customer. They track cost-benefit analysis and make sure that customers know and value the services that are provided.
- **Are able to command a room.** They have a presence about them that people notice. They do not seek the center of attention, but rather, given their intellectual depth, people remember them.

- **Raise the bar.** These salespeople set a new standard of performance for colleagues to follow. They change the expectations of what is considered to be good performance.
- **Envision success.** "As a man thinketh, so shall he be."
- **Build great relationships.** This salesperson genuinely cares for his or her customers and it shows. He or she gets to know customers on a professional and personal level, thereby building trust and mutual respect. This goes beyond being thought of as a "nice person with whom to work" and becomes that hallowed role of "trusted advisor."

## A WORD ABOUT THE TELEPHONE

A computer consultant was giving a talk the other day and explained to a group of novices that the Internet was similar to linking all the people in the room with a wire. What a novel idea. The first commercial telephone exchange opened in New Haven, Conn., in 1878. The Internet of course was invented recently by Al Gore.

It would have made a lot more sense if the Internet had been invented first. Then we would be amazed at the recent invention of the telephone where we could actually talk to people directly in real time. If you want to demonstrate customer care, pick up the phone. Frequently.

Another great option is to get in your car and drive over to see your clients. Is that faster than email? No. Is it more effective? Absolutely.

**If you want to demonstrate customer care, pick up the phone. Frequently.**

## BECOMING A SALES PERSON

What steps should someone in the organization take to become a salesperson? A few ideas include:

- Demonstrate personal competence and willingness to work hard internally. Senior people in control of projects will notice your hard work, and given the shortage of that today, you should be sought after.
- Develop intensity in your efforts and become a mini-expert quickly.
- Develop opportunities to get in front of customers, ask questions, share what you know and become acquainted for the long term.
- Develop industry knowledge.
- Identify and follow up on a potential customer that has a need for the services your firm provides.
- Use every opportunity to talk to people in the industry, especially if they are buyers or influencers.
- Always make clients feel that they got more than they paid for, and they will buy more of it.
- Work hard so you are respected by the client and will be referred to other people it knows.

### YOUR SALES CAREER

David Campbell, a renowned psychologist and career guidance vocational counselor, was one of the early leaders of the Center for Creative Leadership. David has a good philosophy about life. He says that life is not so much about endings and specific goals, but instead it is a journey and should be enjoyed accordingly.

He makes the point that there are a series of paths in life, each of which has branches that twist and turn in amazing ways. Each path is governed by a gatekeeper, and the ability to go down a path is determined by the assets you have to get through the gate. Each gate has its own requirements, such as education, experience, talents, relationships, good health, personal characteristics, intelligence, persistence and good work habits. Build your assets, always.

**If you are like many seller-doers, you do not have two days a week to invest in meeting and cultivating customers. Sometimes you can stand out from the crowd in how you use small blocks of time.**

Happiness is a function of choices. It matters less about whether you take a specific path, but having the choice to take the path does matter. Not all goals need to be specific. The end goal might be some misty idea, such as a quality of life, having an impact on the industry or making a difference in the lives of those around you. Having goals allows you to get started and track your progress along the way. They set the foundation for success in your career and personal life. As the saying goes: A journey of a thousand miles begins with a single step. The same is true in sales. The key is to get started, then keep it going. Make sales one of your choices. If you are like many seller-doers, you do not have two days a week to invest in meeting and cultivating customers. Sometimes you can stand out from the crowd in how you use small blocks of time. ■

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# Ten Commandments of Superior Customer Service

*By Ken Wilson*

# #24

Why should you care about customer service? Beyond the obvious benefit of making your life easier, it likely will result in more repeat business with your customers and enhance your career development. In addition, providing superior customer service might make you more productive, both on and off the job. While you may believe that you thrive on stress and have the right job to prove it, the intangible effects of stress on your life and health may be having considerable negative impacts, even outside of the workplace.

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Here are a few ideas to help you think about how you interact with your customers and others on the project, daily.

**Win the war, not the battle.**

Look for long-term solutions to short-term conflicts and disagreements. You know how satisfying it is to win an argument with other people on the job site. They have been on your backside since the start of the project, and you finally have the upper hand on this issue. While it is not a big deal, it gives you a chance to put them in their place and show that when you are on the job site, you are in charge. It feels so good! But what about the long-term consequences of those 10 seconds of enjoyment?

Take a few minutes to think about whether it is really worth it to rub someone's nose in the fact that he or she is wrong on any issue. Think about whom you have just beaten. If it is the customer representative, then he or she has the ultimate upper hand. After all, the rep controls the purse strings and you will ultimately have to look to him or her to get paid. He or she might not sabotage the project overtly, but may choose to lose your invoice for a month or two. That could disrupt your cash flow and make it difficult to explain to your boss on why your job is in the red.

You might think you can beat up on subcontractors or suppliers since they technically work for you. However, think about all of the ways they can hinder the progress on the project. Maybe not with a flagrant work stoppage, but by shifting their resources to another job or just not being as proactive in making your material deliveries show up on time when you need them to keep the job moving.

Being a poor winner yields hidden costs that are driven higher by vindictive losers.

**Educate the customer.**

Is the customer always right? Maybe not, but he or she is always the customer. We have an obligation to help the customer understand the long-term impact of requests that might seem trivial, but will result in larger schedule and coordination problems. In fact, is that not why they hired you in the first place? So that you can use your superior know-how in completing the project on time and under budget? If customers knew all of the answers to those everyday construction problems, then they would not need you, would they? If you are constantly seeking ways to keep your customers informed, maybe they will not look for problems that really do not exist.

**Is the customer always right? Maybe not, but he or she is always the customer.**

**Deliver bad news early.**

Even though it might be difficult to confront a problem today, sweeping it under the rug will not make it go away … and it will get worse! We always seem to perceive that we can fix a problem tomorrow that happens to crop up today. Most owners will develop more respect for you if you are proactive and identify an unforeseen challenge on the project before they hear about it through the job-site rumor mill … and they will hear about it! But do not just send an email that the curtain wall panels will not fit the opening. Do your homework to develop alternative solutions and then make an appointment and meet with the owner representative face to face. You will be more effective in your presentation of the issues and will be able to read his or her response more accurately.

**Be assertive … but at the right time.**

It is not necessary to be aggressive all the time, but it is important to do your homework and take a stand to establish that you are knowledgeable and representing the client's best interests. Starting the project on day one by building a professional relationship with the customer will pay off with long-term dividends when inevitable conflicts arise on the jobsite. This is especially important when you are managing relationships with other project team members, such as architects, subcontractors and suppliers. Maintaining a positive working environment will keep the project flowing and avoid delays that will derail the ultimate completion on schedule. One day you might need a favor from a key subcontractor when you experience a disruption in the late stages of the project. Being assertive calmly and without anger is a skill worth developing.

**Create a sense of urgency among all of the project team members from the start of the job.**

It is too late to rally the troops, build consensus and solve the problem if you do none of this until a crisis erupts. Engage your project team partners even before mobilization to ensure that everyone on the site is thinking about the next phase of the schedule. Anticipate obstacles that can hinder progress on the job and seek potential solutions from all of your partners, even those who may not seem to be involved at this stage of the project. You may be surprised at how creative construction people can be at all levels, from field operations to the estimating and engineering functions. They are inherent problem-solvers and, given the opportunity, might just give you a clever option to keep things on track to make the schedule. Most people love to share their ideas and their knowledge; give them plenty of opportunity.

**Be firm, but fair.**

Operate in an open, consistent environment. Make decisions from an informed position and stick to them. Our industry has developed a reputation as unethical and unreliable, if not downright dishonest and criminal. Do not perpetuate this image by changing your position with other team members just because it is more convenient for you at the time. Make a decision and stick with it, even if you have to weather some pain in the short term. That is not to say that you cannot change your mind if you learn new information or if conditions change that invalidate your original assumptions. Be flexible when it makes sense and it is the right thing to do.

**Make a decision and stick with it, even if you have to weather some pain in the short term.**

**Take responsibility for minimizing the overall risk to the project.**

Even though the specifications might prove you were “right” about a mistake, the negative impact on the success of the project will inflict a cost on everyone. For example, you know about a glitch in the drawings that will inevitably trip up the architect and/or one of the subcontractors on the project. However, you just wait until you can spring it on them to make them look bad. It is not to your advantage to look better by comparison. Do not be tempted by this grade school stunt. It will ultimately make everyone look bad when the total project team performance suffers, and it will usually give you an enemy for life. None of us needs more enemies.

**Be a project leader, not a project witness.**

Be proactive in leading the resources on the job. Communicate regularly with the customer, subcontractors, vendors and others who can affect the progress of the project, either positively or negatively. For example, keeping government inspectors informed of the next phase of the project might help you avoid a delay in getting that phase approved so you can maintain the momentum of the project team. This is especially important in difficult economic times when agencies are short of qualified technical experts who either can make the decision to approve your work or stop you dead in your tracks.

**Treat others with respect.**

Ask people to help you develop solutions to common problems so they have a stake in creating an equitable outcome. You are constantly negotiating resolutions to everyday problems, large and small, that could potentially disrupt the flow of the job. People tend to respond more positively to those who present a professional demeanor and elicit respect from others. Perpetuating the traditional adversarial climate of the construction industry will not get you very far in achieving your career aspirations.

**Take the long view.**

This is the Tenth Commandment for achieving superior customer service. In developing a successful career in the rough and tumble world of the construction industry, you will be hard-pressed to do that alone. Think about all of the issues and problems that you must resolve on a daily basis and determine which of them directly affect your ultimate goal: getting the project done so you can satisfy the customer. Maybe the short-term need is to get paid for the work that you are doing on this contract, but your career focus is more long-term. You want to be better-positioned to get not only that next job with this particular client but also to get years of positive referrals from the customer in hand.

There is little downside in taking the high road and demonstrating to others that you will not participate in games that divert energy from supporting the overall goals of getting the project done. ■

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# Energy Services and Cleantech: Optimizing Long-Term Building Performance

*By Tim Huckaby and Russell Clarke*

#25

Many of the largest value-creating opportunities in the built environment are found after initial design and construction. First costs (original design and construction) often comprise less than one-third of the total life cycle costs of a building, excluding financing. Utilities and operations, maintenance and repairs make up much of the remaining "hard" life cycle costs. "Soft" costs or benefits of building operations, such as occupant productivity, health, safety and well-being, are significant, although more difficult to measure and therefore often ignored.

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Services and technologies that reduce building operating costs (such as energy, water, operating and maintenance savings) and/or improve occupant productivity and well-being (e.g., better lighting, cleaner air, power quality and reliability, ease of operations, etc.) offer immense value-creation opportunities, as shown in Exhibit 1.

FMI Capital Advisors' Energy Services & Cleantech group focuses on merger and acquisition (M&A) and capital formation transactions with companies that improve long-term building operating performance. FMI's staff has been performing transactions in this sector for 17 years. Some of the core lessons we have learned that stand the test of time are set forth below.

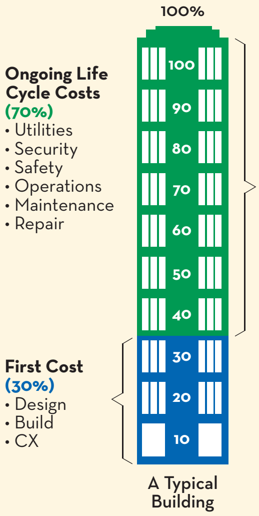
### LESSON 1: ENERGY EFFICIENCY IS THE FOUNDATION

Buildings consume more than $350 billion per year in energy, including about 70% of the electricity produced in the U.S. and 40% of the natural gas used.

Exhibit 1

**Value-Creation Opportunities**

Percentage of a building's lifecycle cost




**Value-Creation Opportunities**

Reduce Utility Costs
- Electricity
- Gas
- Water/Steam

Improve Occupant Productivity and Well-Being
- Cleaner Air
- More comfortable and consistent temperatures
- Improved lighting and increased natural light
- Creation of greater comfort and occupant productivity
  - Building is more desirable
  - Owner can command higher price/rents and attract better occupants

Improve Power Quality and Reliability (PQ&R)
- Reduce downtime
- Ensure mission-critical applications
- Improve power quality to reduce stress on equipment

Avoid/Defer Large Capital Costs Related to Repairs and Replacements
- Provide optimal preventive maintenance and operations.

The DOE's Energy Information Agency estimates that 30% of energy used in commercial buildings is wasted.

Opportunities for energy and building efficiency are abundant, high-value-add to building owners and profitable to service providers. The energy efficiency marketplace in North America is large. We currently estimate that the building efficiency market is approximately $20 billion and growing quickly. We expect this market to be more than $30 billion within the next five years (see Exhibit 2).

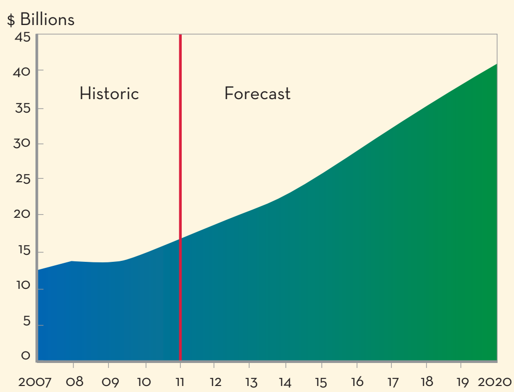
Even with promise of cheap domestic natural gas for the foreseeable future, energy efficiency remains the lowest cost "fuel" source, or the "first fuel" as some call it (see Exhibit 3).

## LESSON 2: OWN THE CLIENT RELATIONSHIP AND DELIVER A TOTAL SOLUTION

Solution sets constantly change. Technologies, cost structures, incentives, financing options and other solution components are always in flux. Likewise, client needs change over time. Understanding your clients' needs, being their trusted advisor, and

Exhibit 2

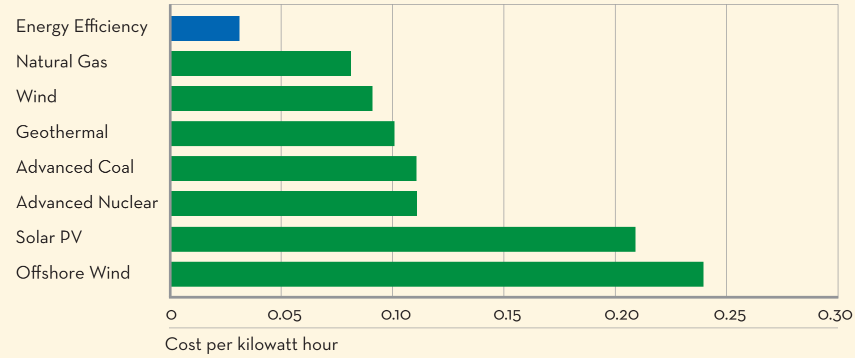
**U.S. Energy Services Market Industry Revenues Through 2020**




Source(s): Lawrence Berkley National Laboratory, Pike Research, FMI.

Exhibit 3

**Cost of Fuel Sources**

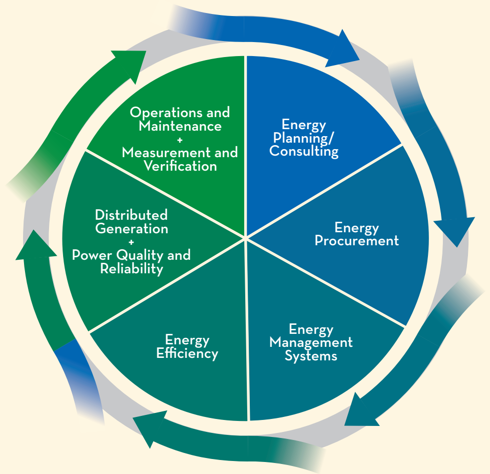



Source: Institute for Building Efficiency, ACEEE, McGraw-Hill, Preservation Green Lab

Exhibit 4

**Energy Services "Flywheel"**

Companies often gain entry to a client through one service and then expand into other services.




designing and delivering optimal solutions is a winning strategy.

A client's initial needs for energy services or building operations services vary, but many of the services interrelate (see Exhibit 4). Delivering value in one particular area often leads to other building improvement opportunities.

Furthermore, clients often value properly integrated and optimized solutions, including financing and guaranteed performance (see Exhibit 5). Being in a position to "own" the client relationship and deliver a turnkey solution, even if many of the solution components are outsourced, can allow a firm to capture an attractive share of the profits in the value chain.

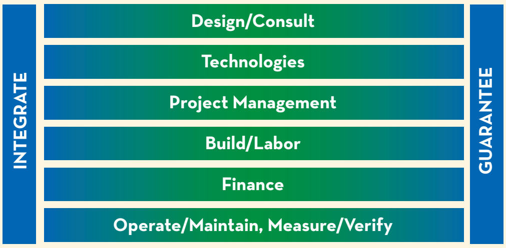
### LESSON 3: PEOPLE AND TECHNOLOGY MATTER.

We see the continued convergence of historically separate services as a theme running through many segments we follow in this market. Building owners and operators want well-functioning and efficient buildings, not a complex maze of separated energy and building services. A key area of convergence is the pairing of on-the-ground operations and maintenance (people) with the more sophisticated energy and building technical services (technology). The mid- to long-term vision that buildings increasingly will be monitored, maintained and optimized more efficiently and effectively via software systems, with fewer staff on-site or on-call, makes sense. Nonetheless, in the short- to midterm, we expect to continue to see businesses leveraging on-site or on-call operations and maintenance staff, while further integrating sophisticated energy and building technologies.

## LESSON 4: ENERGY WILL BECOME MORE DISTRIBUTED.

Power production continues to move towards distributed generation, including renewables and traditional generation. A parallel can be drawn from the computing industry — as the price of computing power declined drastically and the minimum efficient size of a computer decreased, computational power moved closer to the user. Although the trend is much slower (so far) in energy, the underlying economic forces remain the same.

Exhibit 5
**Integrated and Optimized Solutions**




There is no reason to believe distributed power and energy storage will not continue to become cheaper, more reliable, smaller and more abundant, with better connectivity to the larger power grid. We view the question as one of rate, not whether. We do not know how rapid the movement to distributed power will be, playing out over several decades or at a much quicker pace (there may be breakthroughs that greatly accelerate this trend).

Power quality and reliability increasingly are important for energy users and goes hand in hand with distributed generation. The need for power reliability has been displayed prominently in recent years, with several devastating storms in the U.S. leaving millions stranded without power. This lack of power availability is not an option for some mission-critical users, such as hospitals, data centers and military applications. Furthermore, these high-tech facilities are extremely sensitive to power quality.

As power generation becomes more distributed and the importance of power quality and reliability increases, buildings and/or groups of buildings will become more active components of the larger energy grid.

Throughout FMI's 60-year history, the technologies and services available to optimize long-term building performance have expanded greatly. Nonetheless, there remains significant opportunity to create long-term value for your clients by lowering energy consumption and operating costs, enhancing building performance and improving occupant safety, comfort and well-being. ■

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# Acquire a Company Only as Part of a Strategic Direction

By Scott Ihle

# #26

In the last six decades, many researchers have attempted to identify the key variables leading to successful company acquisitions. These studies have not always been definitive or quantifiable. The reason is connected to the challenge of simplifying an acquisition into a mathematical framework. Instead, businesses find success in the complexity of big dreams.

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Long before they were considered an alternative for enhancing or diversifying a portfolio of returns, acquisitions played a strategic role in railroad expansion, oil field development and empire building. The great leaders in history and industry alike have made acquisitions a part of a grander strategic vision, not simply a scheme for growth.

Part of the misconception about the proper role of acquisitions is due to the conglomeration of corporate America and rise of private equity (PE) firms. Both of these trends took root post-World War II, but were glamorized in the 1980s with the successful diversification of General Electric and high-profile LBOs such as KKR & Company's (formerly known as Kohlberg Kravis Roberts & Co.) hostile takeover of RJR Nabisco. Starting in 2003 with a low-interest environment, we began to see what has been termed the Golden Age of Private Equity, and PE deals were yielding returns that were triple the S&P.[1] Over time, acquisitions became an alluring way for businesses to experience exciting and rapid growth. Even smaller businesses in diverse industries became comfortable with the tactic.

In reality, outside the world of private equity, business acquisitions rarely yield a positive return on equity. Most studies have the success rate pegged between 10% and 30%.[2] The reason private equity firms can yield such high returns, especially in a low-interest-rate environment, is because they leverage the firm with maximum debt. Similar to real estate deals, PE firms experience ROE magnification as debt increases. Of course, in the E&C industries, high leverage is less practical because of variability of cash flows and bonding requirements. Likewise, from a company perspective, diversification is rarely a strong argument for making an acquisition. Professor Damodaran at the Stern School of Business at NYU, for instance, found that the values of conglomerates were discounted approximately 10% compared to the sum of the individual company values.[3] The value of diversifying risk by consolidating unrelated businesses is offset by increasing complexity and administrative burden.

For superior profitability and long-term growth, the best motivation for purchasing another company is to make a strategic vision possible. Instead of having an "acquisition strategy" consisting of shallow or vague statements, such as scale realization or diversification, develop a complete company strategy, of which acquisitions play a part. This subtle difference in thinking can, at minimum, keep your business on track. Ideally, it could mean a game-changing acquisition.

## WHAT IS A STRATEGIC DIRECTION?

In order to plan acquisitions in the proper context, it helps to reinforce what it means to have a strategic direction. It starts with a simply stated goal or a vision, such as "to win in X industry by 20xx." From there, pivotal points on how to win are identified (i.e., best-in-class service or perfect safety records). The complexity lies in the countless details, activities and responses that allow you to achieve the pivotal points and eventually accomplish the vision. In other words, strategy is the road map for winning before the game is ever played. In the game of football, the coach does not say that his strategy is to win. Before the game, the coaches definitely have the goal of winning, but, not stopping there, they identify the pivotal points required to win the game, given the opponent's strengths and weaknesses. Finally, they design the plays and practice scenarios tailored for those pivotal points. The strategy is all the above. With that in mind, think of an acquisition as one of the plays that could be called during the game. It could be a play that is called frequently or only sparingly. Perhaps it is very risky, such as a fake punt on fourth down, or maybe it is your bread-and-butter play. But no matter the scenario, it should fit with your overall strategy to win the game.

> **Strategy is the road map for winning before the game is ever played.**

Consider Chicago Bridge & Iron's (CB&I) recent acquisitions of Lummus Global and Shaw Group. CB&I is an excellent example of a company with a strategic focus. It has responded to emerging trends and has transformed through organic growth and acquisition from an oil and gas storage company into one of the world's largest energy infrastructure companies. In order to make this transformation, two pivotal points of emphasis were required. First, in today's rapidly evolving energy markets, CB&I had to be a leader in emerging process technologies. Second, in order to secure the world's largest projects, it had to compete effectively for government services. In 2007, with the acquisition of Lummus Global, CB&I not only acquired a large portfolio of process technologies, but also solidified its position as a global player. In 2013 nuclear and government contracts were CB&I's target in its acquisition of Shaw Group. Today those acquisitions have been deemed a strategic success, positioning CB&I to compete for the world's largest projects. At first, however, analysts were bearish on the deal, not seeing the value.[4] Such is usually the case with strategic moves — outsiders may not see the logic.

### ACQUIRE TO WIN TOMORROW

While all companies, public and private, face certain pressures from stakeholders to make short-term gains, acquisitions are moves best made with the future in mind. Of course, it would be unreasonable to say that any business leader failed to consider the future before making a deal. Yet, the high level of emotions associated with deal fever has been known to cause tunnel vision in some instances. In other cases, the shortsightedness of middle managers or outside stakeholders has been known to pressure executives to make decisions incongruent with or counterproductive to the firm's overall strategic direction. By looking for success at some point post-integration, executives can have a better view of the acquisition. Now that does not suggest short-term economics should be ignored. But giving more weight to the long-term case will inform a more thorough and thoughtful due diligence process.

Consider the case of Caterpillar's misinformed acquisition of China's Siwei in 2012. It was not from lack of strategy that caused Caterpillar CEO Douglas Oberhelman to announce to shareholders the year prior, "We are stepping it up big-time and putting our money where our mouths are. We're going to play offense, and we're going to win. We will win in China."[5] The Caterpillar CEO was facing significant pressure to show traction in the world's largest coal market — China. In June 2012 Caterpillar paid approximately $700 million for Siwei, a fast-growing and profitable seller of mine-safety equipment, and its parent company, ERA Mining Machinery. With the acquisition, Caterpillar was supposed to gain a foothold in China's mining industry.

**While all companies, public and private, face certain pressures from stakeholders to make short-term gains, acquisitions are moves best made with the future in mind.**

That is until Caterpillar announced in January that it would be writing down $580 million from the purchase due to alleged accounting fraud. The stated value of the firm ended up being a complete mirage. While it seems to be inappropriate to argue malfeasance against Caterpillar executives, at a minimum they made a huge misstep under the influence of deal fever. They wanted to make it work and were even neglectful of early warning signs. According to Forbes, Siwei was running low on cash and had a mountain of bills, and Caterpillar made early loans to the company before the deal even closed. Missing from the decision were basic strategic questions such as, "Who are the managers running the acquired company?" "How do the firm's values fit with our values?" "What are the value drivers for this firm, and do they complement or enhance our own value proposition?" Complete answers to these questions should have easily revealed the fraud that was hidden in piles of financial reports. Leaders do not need auditors as much as they need an understanding of strategic congruency.

**One of the primary benefits of having a properly considered corporate strategy is to stay ahead of competitive and industry changes that tend to depress profits.**

## GAME-CHANGING ACQUISITIONS

One of the primary benefits of having a properly considered corporate strategy is to stay ahead of competitive and industry changes that tend to depress profits. Twenty years ago we may not have had to worry much about change in the engineering and construction industries, but today our industry is evolving. Competitors are becoming larger, technology is becoming more sophisticated, consulting/design and CM firms are becoming more integrated, etc. In this sort of dynamic environment, acquisitions can be a particularly effective means for keeping up with trends and changing the game. Organic growth can be slow and expensive. While of course riskier, acquisitions can be quick and decisive.

One domestic producer of cement in Mexico, with aspirations to become a global leader in the industry, was able to pursue acquisitions in 1992 that kept it on pace to meet its goal, despite unfavorable industry forces. CEMEX, faced with competitive pressure in Mexico from Swiss giant Holderbank (now Holcim) and unfavorable tariffs in the U.S., decided to make a big move into the Spanish cement market through the acquisition of two firms totaling 28% market share.[6] As a competitive response, it was a success. It gained access to an important European market dominated by Holcim, of which CEMEX had the cultural and language advantage. From an operational perspective, CEMEX also adopted best practices from the more efficient Spanish firms. For instance, the use of petroleum coke as a fuel source in Spain was exceedingly more productive; so within two years, CEMEX adopted the practice at its Mexico operations.[7] As a result, CEMEX was able to improve its competitiveness by adopting the Spanish efficiencies. Beyond that, Spain, at the time an investment grade company, also provided CEMEX access to cheaper capital that could be used to fund further acquisitions. And acquire it did. In 15 years, CEMEX went from near stagnation to become one of the world's largest providers of construction materials. It did so from a shrewd awareness of the environment it operated in and a complete understanding of the innovative value it could derive from acquired firms. Its approach commendably became known as the "CEMEX Way."

Like the construction materials market, the rest of the industry is facing pressure to commoditize in order to stay competitive. Two generic strategies helpful to consider in this context are a low-cost strategy and a differentiation strategy.[8] If these two strategies are thought of as requiring a trade-off between competing on cost and competing on value at, then choosing one would require commitment from all of the firm's activities, especially acquisitions.

Suppose that a general contractor, building in the Class-B, midrise office market, had the strategy of winning contracts primarily on some combination of differentiating value-added activities (i.e., innovative technology, reliability, on time delivery, etc.) and not always on lowest price. Suppose further that this general contractor was sitting on excess cash and was looking to make an acquisition to move into the Class-A space. As is usually the case in real life, it did not have a whole menu of companies to select from — only two. Candidate A was a no-frills but fast-growth contractor that had built a handful of Class-A shells in various markets. It also owned a proprietary project manager training program that gave it best-in-class efficiencies. Candidate B was a smaller and younger but profitable, interior design-build firm, which had won awards in the past year for its high-profile completion of a Fortune 500 headquarters. It also was in the first phases of adopting BIM technology and had strong relationships with the two of the city's most reputable owners. Equalizing for price, both companies appear to be very promising as acquisitions. Both are potential game-changers for our fictional GC.

**Game-changing acquisitions should not be about changing strategy or focus. They are about directing your business to uncharted areas of value creation.**

In this highly stylized example, our GC can choose candidate A and be on the path of fast growth but also price compression and commoditization. Or the contractor could choose candidate B, a slower-growth and riskier option, with much higher profitability and unique value propositions. Based on previous experience and differentiation-based strategy, this contractor should likely pick candidate B. Another contractor with a low-cost history may do very well in picking candidate A. Of course, in practice, strategies are usually more complex than this. However, it is important for a business executive always to be mindful of how he or she is positioning the company in the market. As a natural extension, all of the firms' activities should be consistent with that positioning. Game-changing acquisitions should not be about changing strategy or focus. They are about directing your business to uncharted areas of value creation.

## CONCLUSION

Developing a corporate strategy and choosing complementary acquisitions is only part of the equation. Strategy realization is only achieved upon successful integration, which is hard work requiring attention to many details. The costs of integration are high, and something as simple as personality conflicts could lead to failure. As FMI has found in previous research, successful integrators are common in that they have had great sensitivity toward the people involved in both sides.[9] It is hard to imagine anything energizing and unifying two separate groups of employees more than convergence around a consistent and clearly communicated vision of how to win in the marketplace. ■

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# 99 and 44/100% Pure

By Andrew Patron

#27

The claim of "99 and 44/100% Pure" becomes significant when a bar of Ivory® soap is being held between your teeth. For more than 60 years, parents have used this disciplinary practice to "wash our mouths out" and discourage us from lying, cussing or saying something inappropriate. For some, this technique was effective. For others, holding the soap became a lesson in saliva control that ended without leaving a bad taste in our mouths at all.

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The whole exercise did give us pause, however, to think about what we said. You may have thought about what was in the other .056% of the bar. Even though it was only a tiny amount of "impurity," would it be enough to hurt us? The longer we held that potentially poisonous soap in our mouths and the more times we had to hold it there, the more likely we were to be harmed. If you believe that our industry is more than .056% impure, are you willing to risk the initial "bad taste" that corporate discipline requires to make it more "pure"? Let us consider the state of ethics in the construction industry today.

Most of us do not remember what construction was like 60 years ago, since the vast majority of our current industry leaders were born in the 1960s and early 1970s. The world was different back in 1953, especially in the areas of construction safety and, analogously, ethics. First, consider job-site safety, then and now. Back in the day, construction workers were just as concerned about personal safety as they are now, but the focus was different. They did not fully understand that there was more to staying unharmed than telling your workers to "be safe." Today, companies must prove that they are and will continue to be safe. The industry focus shifted from reactive to proactive and, as a result, fewer people are injured and killed today than 60 years ago.

Ethics is evolving in a similar fashion. Arguably, industry leaders are more concerned about ethics today than they were 60 years ago. There is more at stake. They are beginning to realize the severity of the issues that can arise when there is a lack of focus on ethics in their companies. For one thing, business is much less "private" than it used to be. Enron and Sarbanes-Oxley were game changers. Transparency is now an integral part of how we do business today. When you consider that anyone with a phone or a Wi-Fi connection could expose you to the public, it is difficult to hide anything. More and more companies are getting caught and being told to "hold the soap between their teeth," as seen in Exhibit 1.

**Industry leaders are more concerned about ethics today than they were 60 years ago. There is more at stake.**

It is important to understand that "getting caught" is a reactive response to the lack of focus on ethics, just like getting hurt is a lack of focus on safety. The real penalties for an ethical breach are expensive and leave more than a bad taste in your mouth. Ethical misconduct can cloud the reputation of the company for decades and cause collateral damage within the company, as seen in Exhibit 2.

We are also beginning to understand that there is more to being ethical than telling our employees to "do the right thing." Agencies and owners are no longer

Exhibit 1

**Reported Frauds for the E&C Sector Versus All Industries**

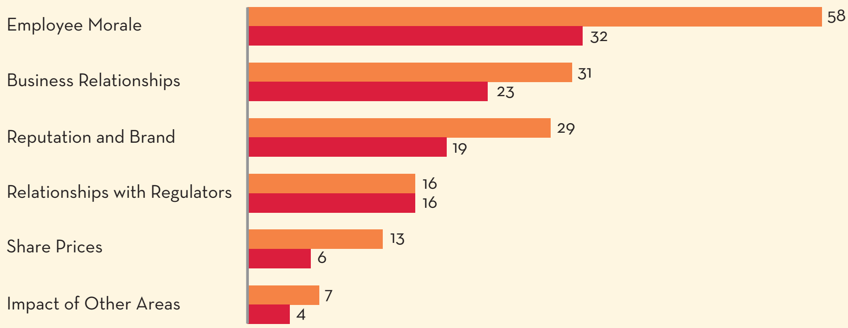

Source: Price Waterhouse Coopers Global-Economic Crime Survey, March 2010; Engineering and Construction Sector Summary

Exhibit 2

**Collateral Damage**

E&C Sector: Percentage of all respondents

All Industries: Percentage of respondents who experienced economic crimes in the last 12 months




Source: Price Waterhouse Coopers Global-Economic Crime Survey, March 2010; Engineering and Construction Sector Summary

tolerant of the "old games" that contractors used to play to grow their margin. Our "new" buyers are beginning to demand that companies provide some evidence that they are and will continue to be ethical.

The Federal Acquisition Regulations (FARS) is the first indicator of this new trend. It is disappointing that the federal government is the trendsetter for ethics and not a company in our industry, and some would say it is a little bit ironic with all of the scandals that have made the news over the years. Many in our industry have started to take notice, though, with the help of the Construction Industry Ethics & Compliance Initiative (CIECI). The CIECI brings together, in a non-profit, private association, companies within the U.S. construction industry that are committed to the highest level of ethics and conduct and compliance with the law (see http://www.ciecinitiative.org/ for more information.) As a result, some firms are implementing ethics programs to highlight the need for higher ethical standards in their companies. They are creating these programs, partly out of a desire to do the right thing, but also as a way to prove that they are ethical (more ethical than their competitors anyway). Ethics programs are turning into reasonably priced insurance policies against any ethical claims. These programs are also proving to be good for business. After all, an effective ethics program is a proactive approach and gives the company some control over the outcomes.

This new focus on ethics is long overdue. The construction industry has not done a good job of public relations, and its reputation has suffered. That being said, the industry has come a long way in a short time. What can be done to support the rising demand for ethical practices in the construction

**The construction industry has not done a good job of public relations, and its reputation has suffered.**

industry? Let us consider the three primary components of any good ethics program: a solid ethics and compliance structure including a clearly written code of ethics; well-trained people with high ethical standards; and a culture that rewards and recognizes good ethical decisions, while identifying and punishing bad ethical behaviors.

An important piece of a solid ethics and compliance program is a well-written code of ethical conduct. Typically, this document defines and clarifies the policies of the company and highlights the ethical issues that a company predictably will face. A sample table of contents might include the following topics and provide some guidance about how to address them:

- Equal Employment and Nondiscrimination
- Environmental Compliance
- Safety and Health
- Drugs and Alcohol
- Conflicts of Interest
- Outside Employment
- Personal Financial Interests
- Gifts and Entertainment
- Bribery and Kickbacks
- Antitrust
- Price Fixing
- Bid Rigging
- Claims
- Disadvantaged Business Enterprises

If you look at the list, many of these topics were not even on the radar 60 years ago.

An ethics and compliance program should also describe the components and systems that define it. The key is to make the program both simple and clear. Typically, this would include the telephone number to an anonymous hotline, structured ethics training and a communication program for everyone on the payroll. In addition, the president and/or senior leaders should reaffirm their "tone from the top" and remind all employees of the importance of ethics to the company, at least annually.

There certainly is more that can be done, but these three easy steps form the basis for most ethics and compliance programs and fulfill the minimum requirements set forth by FARS. Most importantly, these steps represent tangible and measurable actions that you can take to begin to prove to the marketplace that your company intends to deal ethically. A well-defined ethics program is solid evidence for any owner that your company will try to be ethical. "Try" is the right word choice here. The most difficult aspect of this process is that it involves people, who are unpredictable, and perception, which is subjective. Once the program is set, you need to get your employees on board.

How many people are on your payroll? A dozen, 50, a couple of hundred, a few thousand? Now, how many of them have to make a knuckleheaded decision before negative attention is drawn to your company? That is right, one. One person can create a lot of trouble for you and your company. The reality is that you never have 100% control over every employee. It may be just a matter of time before one of them gets caught doing something questionable. To complicate the issue a bit, who decides whether someone's action is unethical? That is right, everyone else does.

More to the point, "illegal" is relatively easy to spot, but "unethical" is a bit more subjective. We need to install some guardrails for our people and we need to provide clarity around key issues to influence perception positively. The first guardrail involves some required reading. Each person who works for the company must read and then acknowledge that she or he has read the code of conduct. The next guardrail requires each person to attend an ethics training orientation, sometime during the year, to make sure that he or she understands the company policies and the intent of the ethics program. People can be taught about ethics. Most people have an innate sense of right and wrong and just need some guidance. When people hear real-life stories and examples of the right and wrong responses to actual ethical dilemmas, the code of conduct becomes more than just a document. These stories, as told by the senior leaders, give the written code some context, which makes the ethics policy more personal. It also gives the company the ability to hold its people accountable. Employees learn about the ethical boundaries of their company from the leaders of the organization. People can then make the right choices and business decisions on their own as well as hold each other accountable.

When your employees know that ethics is important to the company, they will be less likely to engage in unethical conduct themselves and more likely to report it when they see it in others. This will reduce the risk profile of the company. Interestingly, most of your people (75%) have seen some ethical breach and said nothing about it. When you proactively address ethics with your employees, you are able to hold an individual accountable for breaking a policy and protect the rest of the company from taking the fall for it. When viewed this way, an ethics program becomes a good business decision. When more and more of your people understand what is "right and wrong" at your company, they begin to act accordingly. Eventually, this corporate understanding evolves into a culture, which in turn changes the way your company is perceived, internally and externally.

**Evidence suggests that there is a direct connection between being ethical and being more profitable.**

Vala Afshar, chief marketing officer of Enterasys Networks, said, "The simplest definition of culture is what happens when the manager leaves the room." An interesting case study would be to look at your office expenses in August and September. Are they higher? After all, your staff has children going back to school, and they need notepads, notebooks and pens. When you have a culture that rewards ethical behavior, you begin to attract ethical people to your company. When you hire ethical people, those who are preloaded with the same ethical standard as the company desires, they will make better decisions. They will be less likely to "steal" from the company, and you might find that office supplies costs remain more consistent throughout the year. Office supplies are just the tip of the iceberg.

The big dollars are found when owners, agencies, subcontractors and customers begin to trust your company. Evidence suggests that there is a direct connection between being ethical and being more profitable. At FMI, we call that the integrity chain, and it occurs when ethical behavior is a cultural expectation. The result of creating and having an ethical culture is greater profitability. Moreover, there are intangible benefits that accrue when your company is considered ethical: Your employees will be more loyal, turnover will drop, generation Y will be more attracted to your company as a place to work, subcontractors will give you their best price the first time making you more competitive, issues are addressed more openly and quickly reducing corporate risk, etc. When you consider these and other intangible costs, ethics begins to add real value to your company.

The industry is still a long way from being 99.044% pure. Trust is hard-earned and easy to lose in the construction industry. Sixty years ago, a person's word was his or her bond and a handshake would seal a deal. If people did not keep their word, their reputation suffered along with their business. Back in the day, owners would just refuse to work with unethical people and their companies. It seemed to be more personal. Not as much today. Everything needs to be in writing: contracts, change orders, safety logs, production tracking, etc., to manage project risk including the risk of unethical behavior.

A handshake is not enough anymore. Today, owners and contractors require documentation as a way to prove legitimacy and protect them. Experience modification ratings and safety programs serve to prove how safe you are. Production tracking and daily huddles demonstrate that you can be productive. Quality assurance programs, pre-job planning and the elimination of rework show that you can deliver quality. The construction industry has been forced to develop systems and processes to help compare itself against a moving benchmark — each other. To that end, if you were asked to prove to owners or contractors that you are (and will be) ethical, how would you do it? Would you show that you have a solid ethics and compliance structure, including a clearly written code of ethics? Would you introduce them to your well-trained people with high ethical standards and a clear understanding of the policies defining what is acceptable and unacceptable business behavior? Would you immerse them into your culture so that they could see how you recognize people for good ethical decisions and build trust? Ethics is the next differentiator. We have tested the model with safety during the past 60 years, and it works. Our jobs and our industry are safer as a result. Even though it has not been possible to eliminate every accident, zero accidents is still the goal. Ethics is next. The time has come for us to repair the reputation of this industry that we love. It may not be possible to be 100% ethical, 100% of the time, but zero ethical regrets is the right goal. To that end, if 100% purity is too hard to imagine, let us start with 99.044% and work our way up. ■

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# Scenario Planning: Building Confidence to Deal With an Uncertain Future

*By Steven J. Isaacs*

#28

How valuable would it have been to your firm in 2008 to have a plan on the shelf for how your business would operate during a worldwide economic meltdown? How valuable would it be right now if your firm had a plan prepared for how to take advantage of a long period of high uncertainty?

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These are exactly the kinds of contingency plans that you can develop when using scenario planning, either as a stand-alone process or as an integral part of strategic planning. Traditional planning processes direct energy into visualizing the ideal future for the firm and the actions that will take the firm there. Scenario planning looks at a range of possible futures, both ideal and otherwise. The problem with planning only for the ideal future comes when unexpected shifts change the marketplace and that ideal future suddenly moves out of reach.

In the past, it was enough to know your clients, keep a weather eye on your competitors and review your strategic plan every few years. Today, the firm leader deals with a business landscape that shifts from day to day.

Scenario planning is the process of looking at how current and projected future trends play out over time, and what happens when some trends play out more strongly than others do. An array of drivers is taken into consideration, and they are not always what we are accustomed to — they must be viewed at many levels from local impacts to international trends:

- Economic
- Political
- Environmental
- Social
- Global
- Technological

There are vastly differing opinions about what is happening in each of these drivers and how the current level of uncertainty will shape them going forward. The major difficulties firms have found with scenario planning are the expense and time investment needed to create future scenarios that are applicable to the organization. For the most part, the skills needed to build usable scenarios are not in the firm's toolbox.

Some companies have tried to determine what seem like the best-case and worst-case scenarios and plan for both. But, as the forces behind the drivers listed above play out in the world and marketplace, the future will be much subtler than black or white; so plans based on only two alternatives do not offer a sufficiently robust framework for strategic planning.

True scenario planning, based on a variety of possible future situations extrapolated from actual trends, is the tool of choice for forward-thinking firms. However, the same difficulties remain. Companies tend to have deep knowledge about their own markets, clients and local or regional conditions that are key to their current business. However, they are not trained to do either the macro or fine-grained analyses of world and national trends and draw conclusions on the deep impacts these trends carry with them.

To mitigate this situation, in 2009 FMI's Research Services Group took on the task of bringing together more than 50 leaders from firms in the design and construction industry, academia, clients and industry organizations to develop a set of base scenarios for planning use. The resulting four scenarios (see sidebar) are designed specifically for design and construction firms to use in their planning process. These scenarios were created by in-depth analyses of trends and key drivers, analysis of implications by the entire team and expert projections through 2020. The scenarios explore four different possible directions for how the future will play out, reflecting the complexity and changeable nature of the real world.

> **The future will be much subtler than black or white, so plans based on only two alternatives do not offer a sufficiently robust framework for strategic planning.**

## HOW SCENARIO PLANNING WORKS

Using the scenarios is a multistage process that draws out particulars for each firm's unique situation and results in a specific set of strategies for steering the direction of the firm and contingency plans for the less likely, but still possible, scenarios.

The firm's planning team must gain a strong understanding of the scenarios, the trends that they represent and why the future could play out according to each of the scenarios. The planning team then identifies the implications of the four scenarios on the company's direct business environment as scenarios play out over time.

**FMI'S KEY SCENARIOS**

FMI developed these four key scenarios during the A/E/C Futures Research Project in 2009. They can be adapted to an individual firm, offering the opportunity to create contingency plans for handling unexpected changes in market conditions and identifying the most likely future outcomes of current market trends.

**Perfect World:** In 2020 the world economy has fully recovered from the Great Recession and rebounded beyond expectations. A global, interdependent marketplace flourishes, in which private investment, low-cost capital, expertise, goods and services flow readily across market segments and national borders. Levels of innovation and collaboration are high, with government and private enterprises working to build each nation's unique brand. Discipline experts of various nationalities work together to design and build projects to the highest degree of sustainability through a set of integrated project delivery practices that leverage technology to both accelerate the speed of design/construction and reduce risk. Our collective best minds attack common design/construction problems and develop leading-edge solutions to both global and local design and construction challenges, sparking worldwide interest in creating better, more sustainable, functional communities and infrastructure.

**Struggle for Stability:** It took longer than expected to recover from the Great Recession. Globalization stalls as both businesses and governments focus on rebuilding their local economies. Fears of "too big to fail" have led communities and governments to take a somewhat protectionist stance. As a result, companies harbor local jobs, expertise, materials and resources, bracing for the next lean cycle. Through continued government stimulus efforts and resulting public infrastructure investments, local pockets of prosperity emerge and grow, but the overall economy struggles to stabilize. Private capital flows slowly back into the design and construction market as the permitting and approval process is now diverted through both federal bureaucracies and local politicians, raising the risk to financiers. Design and construction firms have become leaner and more competitive; nonetheless, innovative project approaches and partnerships provide some market participants with work firms never would have realized otherwise. Recessions tend to spark new business and innovation, and the Great Recession is no exception.

**Building Walls:** The weakened economy of the Great Recession established itself as the new norm, with small gains unraveled by repeated monetary crises. Defense and survival become the focus of every country, community, city and corporation. As the walls of protectionism go up, partnerships and alliances within industries and across borders fall apart. Resources of all types are in short supply and competition for them is fierce. Consequently, governments throw themselves into defense spending and secure their borders to protect assets and demonstrate power and authority. Within the design and construction industry, business relationships are tense and litigious, with owners placing tremendous pressure on design and construction firms to come up with low-cost solutions. As a result, many firms have lowered their standards, taken on more risk and developed creative ways to deliver projects with fewer resources. Once unfathomable, unethical business practices are now considered standard.

**Controlled Environment:** Governance and capitalism were redefined in the new millennium. In response to the fallout from the days of laissez-faire deregulation, national governments across the globe have seized control of pillar industries to reduce national deficits and stabilize local economies. Under these circumstances, the design and construction sector is considered key to influencing economic and developmental policies. The latest 10-year stimulus plan contains directives as to what is planned, designed and built, as well as when, where and by whom. Unfortunately, an inevitable increase in bureaucracy slows production on the majority of design and construction projects, all of which must satisfy stringent government requirements for technology platforms, design specifications, materials, labor and cost. The scale of projects and developments constructed through forced collaboration is impressive to say the least; however, lateral thinking is not appreciated in a world where government knows best.

The next step uses these implications to adapt the scenarios to be specific to the firm. These enhanced scenarios take into account such things as the firm's current markets, specific issues for the areas where they practice, the pressures on their clients, etc. Using the scenarios as the foundation, planning groups can quickly build firm-specific scenarios.

**Flexibility and adaptability are central to future success and an intrinsic part of the scenario planning process.**

With firm-specific scenarios, the planning team brainstorms potential strategies to achieve success for the firm under each scenario. Comparison of the strategies for the four scenarios enables the team to find commonalities in the strategies, which gives the firm the most flexibility and responsiveness in its primary strategic plan.

The next step is to build a more detailed plan based on these common strategies. Using the best practices of strategic planning, the team crafts an implementation plan based on the selected strategies. For firms with multiple offices, business units or practice areas, the final step is to adapt the corporate strategic and implementation plans to fit each unit's or geography's specific needs and resources.

By examining how various strategies may play out over time, the firm also gains the ability to analyze how shifting trends could affect performance, enabling leadership to adjust strategies as needed. Flexibility and adaptability are central to future success and an intrinsic part of the scenario planning process. Part of the intent of the scenario planning approach is to develop skills in dealing with ambiguity and uncertainty. This process offers firms new levels of comfort in dealing with the uncertainties of our current environment.

Traditional, deterministic strategic planning that firms have used traditionally does not fulfill the needs of the volatile environment we now face. The belief that we have a crystal ball in which to see the future and can set clear strategies is a 20th century concept. In the 21st century, we must plan for a world where firms are flexible and react appropriately to a variety of significant, continuously evolving drivers. The scenario-planning process offers the opportunity to practice how to act in response to changing drivers. At the same time, it allows organizations the opportunity to build strategies and plans for setting direction, growing confidence in their ability to compete effectively and respond quickly to changes in the world. ■

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# ACE Works: Investing in the Future of the A/E/C Industry

*By Kelley Chisholm*

# #29

Attracting young people to the world of construction has never been an easy task. When mulling over career choices, most high school students think that the work is dirty and hard, the pay is low, and that the industry can be dangerous, unethical and discriminatory to women.

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As the baby boomers start to retire in the next several years, especially now that the Great Recession has ended, the war for talent is back in the spotlight. The National Center for Construction Education and Research projects a net shortage of skilled workers totaling 700,000 in 2014, even assuming a return of 80% of the 2,000,000 workers lost in the downturn. Now more than ever, the industry must demonstrate to secondary school age students just how exciting and rewarding careers can be in architecture, construction management and engineering. And for almost two decades, the ACE Mentor Program of America has been doing just that.

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. Charles H. Thornton, founding principal of Thornton-Tomasetti Group, an international design firm, is considered the driving force behind ACE. After several years of experimenting with several mentoring models, the independent nonprofit ACE Mentor Program was created when 17 firms banded together into three teams. Approximately 90 students from local high schools were "adopted," and volunteers from each of the firms served as mentors and worked directly with the students to introduce them to the broad range of people and projects within the construction industry. Students learned about the industry firsthand by selecting and designing a project, touring project offices and visiting active construction jobsites.

## HOW ACE WORKS

ACE consists of affiliates that serve students within a certain city. Each affiliate has a board of directors, executive director and a number of professionals from local design, construction and engineering firms. Project teams are formed within the 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.

Special efforts are made to recruit women and minorities, who may not be aware of the opportunities and rewards of a career in the design and construction industries. The 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. The teams meet at least 15 times during the school year. Each team selects a project and goes 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.

### CHARLES THORNTON

In 2011 the ACE Mentor Program announced that it was one of eight recipients of the prestigious 2010 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEN). In learning of the award, Charles Thornton commented, "I'm incredibly proud for ACE to be recognized with this prestigious honor. I take enormous pride in being part of an organization that helps to find and inspire young men and women who likely would not have chosen these careers, if not for our outreach and mentoring. This award is a wonderful recognition of ACE's success. But most important are the men and women who have taken our help and gone on to spectacular careers in architecture, construction and engineering are our true validation."

Thornton also praised the mentors by saying, "All ACE mentors share in this moment, as they are the lifeblood of our organization. It is because of their dedication, time and effort that we are able to reach and inspire wonderful young men and women."

Thornton accepted the award in a White House ceremony, and the ACE program received an award of $25,000 from the National Science Foundation to advance mentoring efforts.

## THE NUMBERS DON'T LIE

A 2010 research study[1] of ACE students who completed the program between 2002 and 2009 produced some statistics that show the success of the program:

- ACE participants who were high school seniors in 2009 graduated at a rate of 97% compared to the 73% national high school graduation rate.
- ACE students who were seniors in 2009 enrolled in college at a rate of 94% compared to the national college enrollment rate of 68% for that same year.
- Female ACE participants (29%) entered engineering programs at colleges and universities at almost double the rate of their non-ACE counterparts (15%).

- The percentage of Hispanic ACE participants entering engineering programs is almost four times the rate of their non-ACE counterparts.
- The percentage of African-American ACE alumni entering engineering programs is almost three times the rate of their non-ACE counterparts.
- More than 65% of ACE alumni are pursuing architecture, construction or engineering majors as graduate or undergraduate students.

These are just a handful of the facts that show ACE is accomplishing its mission. To access the entire research study, please visit ACE's website at http://www.acementor.org/524.

## KEYS TO ACE'S SUCCESS

### Mentors

ACE relies on mentors who are successful professionals from leading design and construction firms. Mentors devote countless hours and energy, and help the students determine what careers are available and right for them. ACE recognizes that "there is no substitute for experience — the ACE Mentor Program is driven by the committed and enthusiastic participation of volunteer mentors who are practicing professionals in their respective fields. ACE offers high school students the best opportunities because ACE offers the best industry mentors."[2]

Thornton acknowledges that many of the students who have been through ACE eventually become mentors. "They're coming back in droves. Some of them take a year or two when they graduate to get their positions with their firms established."

**Mentors devote countless hours and energy, and help the students determine what careers are available and right for them.**

### Sponsors

Another key to ACE's success is the numerous sponsors who provide financial support and volunteer labor. It is because of them that ACE is able to provide its programs to the students at no cost.

John Strock, executive director of ACE, notes that while the financial commitment is necessary to run ACE, "Sponsors also provide mentors, which is just as important as money. Anywhere our national sponsors have offices, they are also providing mentors and board members and local support as well. We estimate that every year our sponsors provide more than $10,000,000 in in-kind volunteer labor, nationwide."

To attract sponsors, "Our national office identifies companies that we think could benefit from being involved in ACE and of course where ACE could benefit from their involvement as well. It's really grass-roots, industry reach-out," according to Strock. "ACE is the only industry-created, industry-driven and industry-supported career immersion program for the construction and design industries.

ACE is a workforce development pipeline to all of these industries, and we are addressing the impending shortage of construction and design professionals."

What are the benefits to becoming an ACE sponsor?

- Sponsors establish their companies as industry leaders that care about the success of the profession by committing to its future.
- Sponsorships present opportunities to network and collaborate with other industry leaders and to share views about what is best for each respective industry.
- Sponsors help shape the future of construction, especially those who work directly as mentors since they get to see the skills, knowledge and work ethic the ACE participants will bring to the industry.

### ACE's National Board of Directors

The ACE National Board of Directors is comprised of board officers, executive committee, board members and a leadership council. Its members are the leaders and executives of top-rated industry firms. Hank Harris, president and CEO of FMI Corporation, is an ACE executive committee member. He says the executive committee meets monthly either by phone or in person and discusses high-level policies, financials, strategic plans, generation of new affiliates and revenues, and staff needs. Since ACE's National Board consists of so many members, the executive committee's work is an integral driver of ACE's overall strategy and policies.

Executive Director John Strock agrees. "I've worked in nonprofits my whole career and I've never seen an executive committee and board as engaged as ACE is now. They are steering the organization, they are putting their money where their mouths are, and are leading by example. They are not just sitting at the table, but are getting involved and really care about what is happening."

## CONCLUSION

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.

If your company would like to get involved with ACE, please contact its national office at 703.942.8101. ■

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[1] The ACE Mentor Program Works! Retrieved from http://www.acementor.org/524

[2] Retrieved from http://www.acementor.org/510.

# Contractor Challenges With the Dual-Rate Method

*By Mike Clancy*

# #30

Some of FMI's earliest client work revolved around helping labor-intensive contractors capture all of their costs, so that profitability became intentional and planned, rather than something that happened by accident. After all, FMI's founder, Doc Fails, started out by trying to teach sound business and accounting practices to contractors, with the understanding that marrying business acumen to technical skills would lead to best-in-class construction organizations.

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One of the key ways in which Doc Fails, and those who have come after him, helped to do this was by introducing the concept of overhead recovery using dual rates.

The resonance of the dual-rate method and its place in FMI's history seems to be one of the many lasting legacies of Doc Fails, from the contractor who asked FMI to come teach it to a new generation of estimators, to the client whose father showed us his textbook from a pricing and bidding seminar more than 30 years ago. Recently, though, we have had some clients question whether it is still valid, given today's tough market environment. What FMI has learned, more often than not, is that what looks like a failure in the method actually is driven by the implementation. In other words, there are a few consistent challenges we see with contractors who struggle to implement the dual rate method of overhead recovery.

Developing a dual rate overhead recovery model is well-covered in Landon Funsten's "Making a Profit in Construction: Improving Your Overhead Recovery" (2002). Rather than re-plow that ground, we will focus on the most frequently seen challenges to successful implementation of a dual-rate recovery system.

### CHALLENGE 1: HAVING YOUR EYES GLUED TO THE REARVIEW MIRROR

Cars have rearview mirrors so that the driver can glance backwards to use that information in driving forward. No driver would ever think to put the shift lever in drive and then look at the rearview mirror instead of the windshield. Yet, too many contractors use exactly this mentality when developing overhead recovery rates.

The dual-rate method has always been a predictive tool. As part of the annual budgeting process, the contractor should identify what the expected revenues, direct costs and overhead will be for the coming year, and from these key variables derive the appropriate recovery rates.

Because the dual rates are derived from the budgeting process, it seems straightforward to say that contractors who do not budget cannot develop dual rates. Yet, some contractors claim to use dual-rate overhead recovery while simultaneously stating that they base those rates off historical data. Unless you expect to do exactly the same revenues next year as this year, with exactly the same cost structure, this will leave you either over-recovering and less competitive in the bid market (for firms with growing sales) or under-recovering and bidding too cheaply (for firms with stable or shrinking sales).

Even scarier are the firms that came up with a set of rates in the distant past that they have been using ever since. Barring truly exceptional luck, there is no way that the overhead recovery for these firms is anywhere near accurate.

### CHALLENGE 2: CARVING YOUR DUAL RATES IN STONE

Another consistent difficulty contractors have in using dual rates is a lack of flexibility in the rates. Since rates are set based on a projected budget, if circumstances change significantly during the year, the budget should be revised, and with it the rates. In order to stay flexible, the contractor needs to consider each of the various elements of the budget that has an impact on the overhead rates.

**No driver would ever think to put the shift lever in drive and then look at the rearview mirror instead of the windshield.**

#### Revenues

Since one of the key drivers of the budget is the expected revenues of the firm, any significant change in those expected revenues needs to be incorporated into the rate calculation. As an example, one of FMI's clients in a market that typically slowed down dramatically during the winter was able to keep its revenues up due to a different mix of work and a mild winter. This firm was able to recalculate its rates to be more competitive on its work during the rest of the year because of higher-than-expected revenues.

#### Direct-Cost Structure

Another important element in calculating dual rates is the direct-cost structure of the organization. Since so much of the rate calculation is based on ratios of material, labor, equipment and subcontractors, significant changes in these ratios can again lead to over- or under-recovery of overhead costs. Consider the example of the following contractor, as seen in Exhibit 1:

This contractor obviously planned to self-perform quite a bit more work than it actually did. Maybe the firm decided to cut its exposure to labor risk by laying off a few marginally performing crews and instead subcontracted the work. Under the projected budget, the firm's rate on labor would be 27.01%, and on materials and subcontractors, it would be 8.94%. However, if the firm had known it would be subcontracting that work, it might have made dramatic changes in its overhead structure to account for its revised management needs. Alternatively, it could have used rates based on its new M&S/L ratio of 4.8 — marking up labor by 44.36% and materials and subcontractors by 9.09%.

Exhibit 1
**Direct Cost Structure**

| | Projected | Actual |
|---|---|---|
| **Revenues** | $20,000,000 | $20,000,000 |
| Labor | 5,000,000 | 2,500,000 |
| Material | 5,000,000 | 3,000,000 |
| Subcontractors | 4,500,000 | 9,000,000 |
| Other Direct Costs | 2,500,000 | 2,500,000 |
| **Gross Profit** | $3,000,000 | $3,000,000 |
| **Overhead** | $2,200,000 | $2,200,000 |
| **Net Profit** | $800,000 | $800,000 |
| **M&S/L Ratio** | 1.9 | 4.8 |
| **Rate on Labor** | 27.01% | – |
| **Rate on M&S** | 8.94% | – |

However, the firm's change in cost structure, if not accounted for, would have a dramatic effect on overhead recovery. Under the changed cost structure, the firm would recover $675,250 on its $2.5 million in labor, and $1,072,800 on its $12 million in material and subcontract cost. This would limit the overhead recovery to $1,748,050 instead of the needed $2.2 million.

This example shows the dramatic impact that a change in the cost structure of a firm can have on its overhead recovery and the necessity of addressing these types of changes in bids going forward.

### Overhead Costs

Another challenge in establishing dual overhead recovery rates is the impact of changes in the overhead structure of the company. If a firm reduces overhead by cutting staff or consolidating offices, it can lower its recovery rates. More frequently, firms make unbudgeted changes in their overhead structure without revising the rates, which leads to under-recovery of costs and reduction in profitability. Thus, it is important to update the recovery rates when the overhead structure changes in a significant way.

## CHALLENGE 3: PROJECT SIZE MATTERS IN OVERHEAD RECOVERY

The purpose behind dual-rate overhead recovery is to try to capture all of the costs of construction by tying the overhead support required by the project to the project itself. Many contractors forget this fact and apply the same rates to all of their projects. However, a project that is much smaller than the average project will use overhead out of proportion to its size. In other words, no matter how small a project is, it still requires some accounting support, project management, estimating, etc. Likewise, a large project may use less overhead as a percent of cost than the average project. If a $2 million project requires one project manager, for example, it is unlikely that a $4 million project would require two.

To solve for this challenge, a job size factor should be used, based on the project's size relative to the average size for the firm. This factor is derived from the job size of the individual project (Ji) versus the job size of the firm's average project (Ja). Using the table in Exhibit 2, job size (Ji) and average job size (Ja) are measured in total direct costs, not selling price. In this table, Ji is the size of the job's total direct costs, and Ja is the company's average job size, measured in total direct costs. "Normal overhead," hopefully determined through dual overhead

Exhibit 2

**Job Size Factors**

**Ji** = Total contract cost of particular job (i)
**Ja** = Total contract cost of average job (a)
**M** = Multiplier to be used to adjust amount of overhead applied to job (j)

| Ji/Ja | Data Multiplier | Ji/Ja | Data Multiplier | Ji/Ja | Data Multiplier | Ji/Ja | Data Multiplier | Ji/Ja | Data Multiplier |
|---|---|---|---|---|---|---|---|---|---|
| **0.01** | 3.163 | **3.20** | 0.893 | **7.20** | 0.853 | **31.00** | 0.770 | **71.00** | 0.720 |
| **0.02** | 2.660 | **3.30** | 0.891 | **7.30** | 0.852 | **32.00** | 0.767 | **72.00** | 0.720 |
| **0.03** | 2.405 | **3.40** | 0.889 | **7.40** | 0.852 | **33.00** | 0.765 | **73.00** | 0.719 |
| **0.04** | 2.238 | **3.50** | 0.887 | **7.50** | 0.851 | **34.00** | 0.763 | **74.00** | 0.718 |
| **0.05** | 2.117 | **3.60** | 0.886 | **7.60** | 0.851 | **35.00** | 0.760 | **75.00** | 0.718 |
| **0.06** | 2.024 | **3.70** | 0.884 | **7.70** | 0.850 | **36.00** | 0.759 | **76.00** | 0.717 |
| **0.07** | 1.948 | **3.80** | 0.882 | **7.80** | 0.850 | **37.00** | 0.758 | **77.00** | 0.716 |
| **0.08** | 1.885 | **3.90** | 0.881 | **7.90** | 0.849 | **38.00** | 0.756 | **78.00** | 0.716 |
| **0.09** | 1.830 | **4.00** | 0.880 | **8.00** | 0.849 | **39.00** | 0.754 | **79.00** | 0.715 |
| **0.10** | 1.784 | **4.10** | 0.878 | **8.10** | 0.848 | **40.00** | 0.753 | **80.00** | 0.714 |
| **0.20** | 1.500 | **4.20** | 0.877 | **8.20** | 0.848 | **41.00** | 0.752 | **81.00** | 0.714 |
| **0.30** | 1.358 | **4.30** | 0.876 | **8.30** | 0.847 | **42.00** | 0.750 | **82.00** | 0.713 |
| **0.40** | 1.260 | **4.40** | 0.874 | **8.40** | 0.847 | **43.00** | 0.748 | **83.00** | 0.712 |
| **0.50** | 1.189 | **4.50** | 0.873 | **8.50** | 0.847 | **44.00** | 0.747 | **84.00** | 0.712 |
| **0.60** | 1.133 | **4.60** | 0.872 | **8.60** | 0.846 | **45.00** | 0.745 | **85.00** | 0.711 |
| **0.70** | 1.088 | **4.70** | 0.871 | **8.70** | 0.846 | **46.00** | 0.744 | **86.00** | 0.710 |
| **0.80** | 1.052 | **4.80** | 0.870 | **8.80** | 0.845 | **47.00** | 0.743 | **87.00** | 0.710 |
| **0.90** | 1.023 | **4.90** | 0.869 | **8.90** | 0.845 | **48.00** | 0.742 | **88.00** | 0.709 |
| **1.00** | 1.000 | **5.00** | 0.868 | **9.00** | 0.844 | **49.00** | 0.740 | **89.00** | 0.709 |
| **1.10** | 0.982 | **5.10** | 0.867 | **10.00** | 0.840 | **50.00** | 0.739 | **90.00** | 0.708 |
| **1.20** | 0.967 | **5.20** | 0.866 | **11.00** | 0.836 | **51.00** | 0.738 | **91.00** | 0.708 |
| **1.30** | 0.956 | **5.30** | 0.865 | **12.00** | 0.831 | **52.00** | 0.737 | **92.00** | 0.707 |
| **1.40** | 0.947 | **5.40** | 0.864 | **13.00** | 0.827 | **53.00** | 0.736 | **93.00** | 0.706 |
| **1.50** | 0.939 | **5.50** | 0.864 | **14.00** | 0.823 | **54.00** | 0.735 | **94.00** | 0.706 |
| **1.60** | 0.934 | **5.60** | 0.863 | **15.00** | 0.819 | **55.00** | 0.734 | **95.00** | 0.705 |
| **1.70** | 0.930 | **5.70** | 0.862 | **16.00** | 0.815 | **56.00** | 0.733 | **96.00** | 0.705 |
| **1.80** | 0.925 | **5.80** | 0.861 | **17.00** | 0.811 | **57.00** | 0.732 | **97.00** | 0.704 |
| **1.90** | 0.922 | **5.90** | 0.861 | **18.00** | 0.808 | **58.00** | 0.731 | **98.00** | 0.704 |
| **2.00** | 0.919 | **6.00** | 0.860 | **19.00** | 0.804 | **59.00** | 0.730 | **99.00** | 0.703 |
| **2.10** | 0.916 | **6.10** | 0.859 | **20.00** | 0.800 | **60.00** | 0.730 | **100.00** | 0.703 |
| **2.20** | 0.913 | **6.20** | 0.859 | **21.00** | 0.797 | **61.00** | 0.728 | | |
| **2.30** | 0.911 | **6.30** | 0.858 | **22.00** | 0.794 | **62.00** | 0.727 | | |
| **2.40** | 0.909 | **6.40** | 0.857 | **23.00** | 0.791 | **63.00** | 0.727 | | |
| **2.50** | 0.907 | **6.50** | 0.857 | **24.00** | 0.787 | **64.00** | 0.726 | | |
| **2.60** | 0.905 | **6.60** | 0.856 | **25.00** | 0.785 | **65.00** | 0.725 | | |
| **2.70** | 0.902 | **6.70** | 0.856 | **26.00** | 0.782 | **66.00** | 0.724 | | |
| **2.80** | 0.900 | **6.80** | 0.855 | **27.00** | 0.779 | **67.00** | 0.723 | | |
| **2.90** | 0.898 | **6.90** | 0.854 | **28.00** | 0.777 | **68.00** | 0.723 | | |
| **3.00** | 0.896 | **7.00** | 0.854 | **29.00** | 0.774 | **69.00** | 0.722 | | |
| **3.10** | 0.894 | **7.10** | 0.853 | **30.00** | 0.772 | **70.00** | 0.721 | | |

rate, is then adjusted by multiplying that normal overhead by the Data Multiplier. In the table, the relationship between Ji/Ja and the corresponding data multiplier is based upon FMI studies of how overhead costs should vary as job size increases or decreases from average job size for a firm. For companies pursuing several types of work, departmentalizing the operating budget may be required, with consequent determination of dual rates by department and determination of average job sizes for each department.

## CONCLUSION: DUAL OVERHEAD RATE CHALLENGES CAN BE OVERCOME

The typical problems with implementation of a dual-rate overhead recovery system outlined above have solutions. Implementation of dual overhead application rates and job-size adjustment factors based solely upon the information of this article would be difficult. If the principles discussed here have piqued your interest, an FMI specialist can discuss implementation issues with you.

While the market is certainly less forgiving than it was just a few years ago, this is no reason to give up trying to accurately capture and recover all costs of a project, including the overhead support costs. In fact, it is more important than ever before to ensure that any projects your company wins cover all the cost of those projects. ■

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