GOING GLOBAL

THIS QUARTER

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QUIT WASTING YOUR BUSINESS DEVELOPMENT DOLLARS

Challenge your team with the question: How do we know if we are spending too much or too little on business development?

BY RICK TISON AND CYNTHIA PAUL

E-LEARNING AND LEARNING MANAGEMENT SYSTEMS TAKE TRAINING TO A GLOBAL SCALE

Studies show that more training programs are moving to distance education and achieving great results.

BY SCOTT MOYER

PREPARING TO LEAD TOMORROW’S WORKFORCE TODAY

Today’s leaders who are beginning to imagine the world of a typical 2022 leader are those who will define the competitive landscape of the future.

BY KIM MORTON AND JAKE APPELMAN

INTELLIGENCE, PART 1

Waiting too long to act in this fast-moving world can have devastating results.

BY LOUIS L. MARINES

WHERE DO WE GO FROM HERE? POINTS AND COUNTERPOINTS

These are precarious times, calling for deep thought, conversations and resolute action.

BY WALLACE MARSHALL, RICK TISON AND PHIL WARNER

ACE IN THE HOLE: MENTORING PROGRAM IS BUILDING SUCCESS

More than 60,000 students have had the opportunity to explore the building, design and construction industry and consider it as a career choice because of the ACE Mentor Program.

BY KELLEY CHISHOLM

THE PERILS OF DOING BUSINESS WITH DBEs ON A COST PLUS BASIS

The time may have also come for contractors to decline taking on the risk associated with these government set-asides.

BY GERARD P. BRADY
This Quarter: 
Globalization

Dear Reader:

Your first reaction to encountering our theme of globalization for this issue may well be, “Globalization? You have to be kidding me! We have far greater challenges here at home than worrying about global matters.” Certainly, we do have challenges of weak economic output, dismal jobs formation, a long-awaited construction turnaround that has yet to reach most markets, political stalemate that seems more concerned about elections and re-elections than real human or economic progress and so on. Yet, we choose globalization as our theme.

Consider globalization in a couple of contexts. First, many view globalization to involve planetwide matters or at least the interactions and implications on economic engines of the actions of our trading partners, our international miscreants and ourselves, who litter the world stage with acts that consume our resources along with those of others. Another somewhat narrower view of globalization deals with concepts of universality or comprehensiveness. Regardless of the variant of globalization with which you concern yourself, the notion of interconnectedness lies at the center. Just as our economic misfortunes beginning in 2008 did not stem from a few bankers making bad or even crooked bets, any potential collapse of the Euro will not come from simply the social engineering of one or even two small countries intent to feather their nest into oblivion. The whole of either catastrophe or windfall is complex. Moreover, there are usually connections that lever other results, both intended or not.

In 1969, David Brower, founder of Friends of the Earth, first used the term “Think Global, Act Local.” Not only is it a popular term in environmental circles but it is associated with activists on many fronts. As a slogan, it lends itself to a number of interpretations. For our purposes, consider these: Even though many of us only operate in local markets, even those will be impacted by global activities. Even though we agonize over or ignore war in foreign theaters, for most of us, our only actions must be local … in our votes, our funding, our voices. If carbon footprints are something we want to change, then we can control our own local fleet emissions and even our choice of local foods versus foods transported over long distances or goods produced domestically instead of offshore. From what and how we build to whom we put in public
offices, our local choices connect to global results. In this issue, we invite you to contemplate the long reach of your local, regional or national decisions.

In “Where Do We Go From Here: Points and Counterpoints,” Wallace Marshall, Rick Tison and Phil Warner share their thoughts on the impact of the upcoming presidential election on the construction industry. Newcomer Scott Moyer discusses how E-learning helps companies expand their global presence in “E-Learning and Learning Management Systems Take Training to a Global Scale.”

In “Preparing to Lead Tomorrow’s Workforce Today,” Kim Morton and Jake Appelman query if your company is prepared to lead and develop its workforce into 2022. Louis Marines cautions that waiting too long to act in this fast-moving world can have devastating results in “Intelligence, Part 1,” as part of his perspective series.

“Quit Wasting Your Business Development Dollars” by Rick Tison and Cynthia Paul looks at business development and what it takes to win work and retain customers in markets and with projects that your firm can execute profitably. In “Successful Management Succession,” Tom Alafat interviews Stephen Brague about how Casey Industrial successfully transferred financial ownership as well as psychological ownership of the company, while preserving the founding principles and culture of the firm.

In “ACE in the Hole: Mentoring Program is Building Success,” FMI Quarterly editor, Kelley Chisholm, interviews Seth Hausman of our sponsoring partner, Zurich, about his involvement with the ACE Mentoring program on a national and local level.

FMI Quarterly rarely reprints articles, but we feel the message by guest writer Gerard P. Brady, Esq., in “The Perils of Doing Business with DBEs on a Cost Plus Basis,” is an important one for construction executives to pass on to younger leaders in the industry regarding disadvantaged business enterprises.

Finally, Cynthia Paul offers a short piece, “Reading the Tea Leaves,” and why companies should choose your firm to work with instead of your competitors.

We believe that part of our charter is to enable our readers to think more deeply and more richly. You may not always agree with the points of view of our authors or this publisher, but we aim always to serve you by opening doors of possibilities, illustrating how others achieve their results and challenging you to change some of your thoughts and your actions. We welcome your suggestions as to how we can serve you better.

Sincerely,

Jerry Jackson
FMI Quarterly Publisher and Senior Editor
The sun is just starting to crest the horizon, shooting faint streaks of light across the dark morning sky. You are sitting at your desk with a hot cup of coffee. Birds are starting to sing to the sun in order to get it to rise, and all feels well with your world. That is, until you open the morning paper or turn on your computer.

Every day we are bombarded by news and information. We are assailed by thousands of new data points to consider or filter out. The newspaper (a dwindling resource), radio, TV, emails, blogs, Tweets, etc., all combine to provide data overload. It is easy to overlook the trends that are buried in the details. The key is to cull the pertinent information and let the rest float by. What is pertinent? That depends on your point of view. Let’s say that you are the CEO of a midsized construction firm. More than most people, you are extremely interested in how actions and reactions in the world around you might affect the profitability, growth, hiring needs, project opportunities, capital spending or even the survival of your firm. What is happening in your local market is important. It provides context for clients’ thinking regarding projects. It informs their decision making. But what drives their business are industry trends, competitive best practices, changing customer preferences and demands — all balanced with what their shareholders/stakeholders demand.

What is happening in the industry is important. It helps inform the current trends, best practices and early adopted technologies. Industry changes provide the context for new ideas we bring to customers.

What is happening in the country is important. It helps us understand the social and economic setting for how business will be conducted. The economy is a bellwether, letting us know some of the macro-impacts our customers will be facing as well. Changing consumer preferences are part of the national perspective that affects the expansion or early decline of products and companies. The political unrest visible in many parts of the world today impacts how we think of individual rights, if the world markets are likely to expand, where foreign investments will be made, etc.

What is happening around the globe is important. That is where major
changes can occur in industries and technologies. It may well be where your customers’ feel the most competitive pressure.

If you want to improve your ability to capture the client’s interest in having you build its project, you need to start looking at the world from the client’s perspective. You need to be not only a student of your business; but also a student of your customers’ businesses as well.

RECAPTURING THE CROWN

The industry has learned many lessons over the last four years. Customers who once placed repeated calls to get the attention of the busiest firms in the industry now find themselves the center of attention. Customers are enjoying an unparalleled level of choice when picking architects, engineers and contractors. They get to select from the biggest and the best at prices that are lower than those of the past. But being low is not good enough today. You also need to demonstrate knowledge of the customer and the project as a way of differentiating the value that you bring. That means looking at the world differently.

Customers are demanding higher levels of responsiveness and service today. They expect you to have a competitive price and understand their project and their business. They will not willingly be shoved to the backseat while the construction team focuses more on the sticks and bricks than on the customer and the customer’s business needs.

In the 2012 AGC-FMI Business Development Survey, a key trend was that the most profitable contractors are those that were able to capture repeat customer work. Yes, their customers expected a competitive price, but these contractors found ways to sell to build relationships and gain the insights they needed to create unique approaches to the project. The contractors that were able to retain a level of customer loyalty were rewarded with the highest profit levels.

Today the customer is king and enjoys all of the benefits that come from that position. Most contracting firms are telling customers that they are “customer-focused.” Yet too few have inculcated the idea fully in their processes, training and reward systems. Regardless if your firm uses seller/doers or full-time business developers to make rain, the need for a deeper understanding of the customers’ universe is essential. The best in the industry have moved from simply finding out about the technical
requirements of the project and now invest time on the business intent driving the project. For example, if greenfield hospitals are your sweet spot, find out all the information you can on:

- Pending medical legislation
- Technology that is revolutionizing patient care
- Health care trends, such as those that result in emergency rooms standing in for primary care physicians
- Overseas flight of cash-paying patients, such as those flying to India for low cost surgeries.

Read blogs, attend webinars, join LinkedIn groups, get informed. Find out where customers are getting their information on the trends affecting their businesses, customers and products/services. Attend conferences where customers are found, read specific trade magazines and/or join industry groups where key customer contacts participate. In short, get smart on the world your customer lives in. Find out the international trends that impact their business. Learn more about their competitors and the pressures felt in their industry.

Pull your internal team together to share trends, news and insights about current and perspective customers. Get your team smart on the day-to-day challenges customers face. What is it like to be the director of facilities and have to go before the board of directors with air quality problems resulting from a construction project? Walk in their shoes and use that empathy to determine how you approach the project technically and from a service perspective.

Capture the knowledge gleaned — in a CRM, spreadsheet or a good old-fashioned piece of paper. But capture it! When you read trade journals, practice rip and read, filing the information where your whole team will have access. Share the insights with your team the next time they are preparing for a customer meeting. Let your people have information at their fingertips that enables them to ask key questions of the customer and its business.

Knowing your customers’ business inside and out gives you a perspective that seeps into everything you do with the project. Owners have demonstrated a preference for the contractor that best understands the customer. It simply gives you a leg up in creating the approach that wins the project.
CAPTURE THE CUSTOMERS’ ATTENTION

Chasing work is expensive, in both time and resources. Use the information you have or will gather to create project win strategies that give customers a business reason to work with you. Give your team the insights it needs to come across professionally, experienced and confident. Think about the customer’s business at the level of detail you think about your own, and you will find you are winning more work with the clients you target.

Expand your news network and creative thinking to include your customers. Then when the sun rises above the horizon in celebration of the day, you can sit back, relax and enjoy that fresh cup of coffee, confident that all is right with the world.

_Cynthia Paul_ is a managing director at FMI Corporation. She may be reached at 303.398.7206 or via e-mail at cpaul@fminet.com.
Successful transitions do not happen by accident. Instead, they are the result of clear vision, long-range planning and the systematic development of leaders capable of leading the next generation of the business.

Stephen Brague
OF CASEY INDUSTRIAL

Successful Management Succession
On January 1, 2011, the first baby boomers turned 65. Every day since, more than 10,000 boomers reach that same age, and this will continue for the next 18 years.

That is more than 3.5 million baby boomers reaching retirement age each year until 2030.

This aging of the workforce has significant implications on the design and construction industry, particularly in the area of ownership transfer and management succession.

However, there are many obstacles in the way of a successful ownership transfer and management succession process. The Great Recession derailed or delayed many ownership transfer plans. In addition, the operationally focused nature of many construction firms prevents some of the long-term thinking and planning necessary for a smooth transition. Finally, the existing owners themselves can be the single-greatest roadblock in the process if they are neither willing nor able to let go of their role — both financially and emotionally.

Casey Industrial, an industrial contractor headquartered in Colorado, is an example of a company that addressed the challenges inherent in an ownership transition with foresight, preparation and vision necessary to build an enduring organization. In August 2011, a press release announced that Bart Wear, the president and CEO of Casey, officially retired and passed the leadership of the company to Stephen Brague. Behind the press releases to the marketplace was a multiyear process to determine the right candidate, fund an internal ownership transfer and ensure that the Casey culture and values were preserved for the next generation. The following is a summary of that story from the transcript of an interview with current president, Stephen Brague, and FMI’s Tom Alafat.
Alafat: Steve, thanks for taking the time to help our readers learn more about ownership transition and management succession. I know you recently went through the process of transferring ownership. Can you briefly talk about the process and the transition at Casey Industrial?

Brague: Let me start by saying that I was the incoming leader, and much of the transition was engineered by my predecessor, Bart Wear. He deserves the credit for having the foresight and focus to make it happen. It was approximately a six-year process. The No. 1 thing that the previous owners wanted to accomplish was to continue the Casey culture, maintain its values and remain successful. Selling the company to a third party was not considered the right option. The leadership recognized that transitioning ownership within the company takes time.

Alafat: You were hired to succeed Bart, but you came in from another organization.

Brague: That's correct.

Alafat: What was the process to determine if the right person existed internally versus externally?

Brague: One of the difficulties was that several of the owners wanted to exit the business, and they recognized there was not an internal candidate who was capable of taking that spot. There were several candidates looked at externally. One of the big advantages I had was that, as an owner, I had worked with Casey over a 12-year span prior to joining, so there was already a high level of trust based on our relationship of doing projects together. That really gave us a big jump-start to where they were able to commit to things early on because of the level of trust that existed. When we hire a new employee, it takes a year or two before we start feeling that this is the person we think he or she is. We were able to shortcut that.

Alafat: Even though they hired externally to fill that position, you were somewhat of a known entity for them.

Brague: Yes, it was external, but it was within their circle of relationships.

Alafat: When you came in, was there a plan of how this transition might take place or what needed to happen for you to be ready to take over that role?
**Brague:** It developed over time. From very early on, there were discussions, and for me, that was one of the main attractions to coming. However, it was always pretty loose — there was never a checklist per se. It was never very structured. Bart and I got along well, and we made a great team working together. We were able to have open and frank discussions, and that clearly helped a lot. There was not a big battle or hidden agenda going on. It evolved over time. As the date came closer, we had to put more meat on the bone as far as the plan went. It took a great deal of time to engineer that whole process.

**Alafat:** Was there a lot of consideration given to what the future of Casey was going to look like before it even considered whom it needed to step in to fill the role of CEO/president?

**Brague:** One of the major qualifications was finding someone who matched the company values, someone who would carry those on and wanted to see the continued success of the company — not necessarily just to achieve the position or flip the company for a higher sale price. It was looking for someone who was willing to improve the management of the company and continue its sustainability.

**Alafat:** Casey wanted to make sure you would maintain the culture of the organization and fit the culture as well.

**Brague:** We’ve brought in more key people since me, and the No. 1 determinant of success has been their cultural fit and acceptance of our values. It’s not just the acceptance of our values but the ability to espouse our values and treat our people the way we’re used to treating them. We’ve had some bright and talented people who have not been successful here, largely because of the cultural misfit.

**Alafat:** That makes sense. Many times, people just look at talent, intelligence and skills, and they don’t really take into account how well that person is going to fit into the overall culture. It sounds as though that has been an important lesson for you at Casey.

**Brague:** Definitely.

**Alafat:** How did you transfer the key relationships — the banking, bonding, clients, etc.?

**Brague:** We essentially had a six-year transition. Very early on, I was invited to many of those meetings and site visits where I got in front of the bankers, the bonding company and our bonding agent. They got to know me over a period of years and to hear the things I was doing in the operations role. With every new job going forward, I was able to gain clients while Bart was able to focus on being the president of the company. So operations shifted first, and things like banking and bonding happened over a longer period.
Within a few years, operations was mine, so there wasn’t a big, sudden jerk when we actually made the official change.

**Alafat:** Was it hard for Bart and other leaders to embrace the transition?

**Brague:** The ironic thing was that it was something that everyone wanted and recognized. Bart knew six years prior that this is what he was working towards. However, as the time got closer and closer, there were question marks that arose. There’s a lot of personal involvement and blood, sweat and tears that go into a business, and that is a very hard thing to separate yourself from. So the closer it got, the more difficult that became.

**Alafat:** What did you do to assure Bart and the other owners that you were the right leader?

**Brague:** Over the years, you’re faced with decisions with clients and others and you get to choose how you treat a client or an employee. So it’s just the sum of a lot of smaller decisions and actions that show, “I’m with you guys and I believe the same things you believe about running a company.” At the same time, you’re doing things a little differently and bringing your own personal touch to things to show that it’s not going to be an exact copy of the last 10 years. Hopefully, we keep building momentum to where we continue to improve every year.

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**Alafat:** One of the big things I’m hearing is that time is very important — time for everything to evolve, to transition smoothly, to have a lot of conversations. Would you change the time frame if you could go back?

**Brague:** I thought it was perfect. It takes multiple years from several aspects. You get to learn the culture and terminology of the company. You get to know the people and build those relationships. You have to build trust to make some of these moves. There have to be dollars to finance this kind of change. That requires time to generate the successful returns that are required to fund an ownership transition.

**Alafat:** There are many different ways you can do that. How did the leaders decide what would be the best way to structure ownership transition?

**Brague:** As far as the mechanics of the purchase, that was largely engineered by Bart, and it worked well; but it was dependent on Casey being successful.
The more successful Casey was, the better it was for me. My performance directly affected the speed at which we could make that transition. It really fit our culture well as far as rewarding performance. It wasn’t a gift or an entitlement; it was something that was earned over time.

**Alafat:** It’s a testament to Bart and his ability to think strategically about what needed to happen and allow the time for that transition and the ownership mechanisms to kick in and work financially. Many times, we see companies where the owners are almost ready to retire, but they haven’t thought this through, and they don’t realize how much time it takes. Then they find themselves in a difficult situation.

**Brague:** The other thing I see looking back is that even though Bart knew me and had dealt with me in another company, it took a certain degree of faith and generosity on the company’s part. In order to fund that kind of ownership transition, essentially you are funneling profits away from the owner to help future owners. That takes some foresight. They could have kept some of those funds in those previous years, but you’ll never get it turned over unless you help the next generation come up with a way to earn their way in. So that funding scheme does take a certain amount of faith and generosity at the same time.

**Alafat:** Absolutely — and a real commitment to the longevity of the company.

**Brague:** One side note, is that, prior to Bart, the previous owner, Verne Casey, had the opportunity to sell to an external party and chose not to. It probably cost him some dollars. This was his company and he really wanted it to continue — he wanted all the people he worked with to continue to do business the way he believed it should be done. That’s in Casey’s DNA and was passed on to Bart, and Bart has passed that onto me. My intention is to pass it along to the next generation — and it states this in our company values — an enduring organization. Our goal is not to maximize our value and sell.

**Alafat:** That speaks a lot to your company values and who you are as leaders in the organization. What are the skills you discovered that you needed to fill the CEO role?

**Brague:** The No. 1 thing that comes to my mind is risk management. It’s a lot easier to find a manager than it is to find an owner. An owner has to be someone who can understand the risks. Many employees are willing to take big gambles with other people’s money, without realizing they may be putting the company in grave danger. We need to help our next generation learn the pitfalls and risks associated with our business. We’re in a very risky business; the truth is, a lot of the game is risk mitigation.

**Alafat:** What was done for you, and what do you do for others in the organization, to get them to understand that and be able to handle that well?
Brague: One of the things we've done is we've brought in a number of entry-level owners. So, with small percentages, they are able to taste and feel what it's like to be an owner — and it's not always the upside. The intention is to start with a group of minor shareholders and see which of those employees can start understanding and acting like major owners. We've found that there are some who don't really understand it, but they like the financial benefit. There are others who truly engage and make decisions as if they were major owners of the company. Our intention is to identify that next generation over time, and our belief is we had to let them feel it on a smaller scale. You can't imagine what it's like until you have it. You can talk about it and teach it, but the best teacher is experience.

Alafat: We have talked about time being important, and now we are adding in the element of giving the identified upcoming leaders the experience to help prepare them for the future. You get to see who steps up, who embraces it and who will be ready for more.

Brague: It's interesting — when we offer opportunities to buy more, you have a number of employees who see what an opportunity that is, and they take every available share they can get. There are others who look at it through a different lens, and they want to divide their funds between some personal needs, and so they do start to separate.

Alafat: Do you do any specific training development for the leaders within Casey to get them ready for the next level of leadership?

Brague: We hold an Emerging Leaders Program, which helps us identify some of those high-potential young people and lets us see them in action and what they can produce. In addition, owners are privy to information and updates that the average employee is not. We are a fairly open-book company, and all of our employees get to see how we are performing on a month-to-month basis. On a broader scale, we hope all of our employees are acting like owners.

We also have done the executive coaching, which I thought was very helpful. We use a variety of different training sources.
**Alafat:** What do you do to foster ownership among all the employees, not just the shareholders?

**Brague:** First, you share information with them so they get to see how the business is performing. The other thing we do is to tie their compensation to the business performance. We have a lucrative incentive program that allows employees to share in the success of the business.

**Alafat:** When you were making this transition, what did Bart do to communicate the plan to the rest of the organization and to minimize confusion and speculation?

**Brague:** From an ownership standpoint, not a lot was broadcast. From a position standpoint, as far as bringing me in as the operations manager, Bart did a lot of work to support me. He gave me a lot of freedom to make changes and improvements that I saw fit and yet he was great about cluing me into the history and warning me on the hot spots with it. But we don’t broadcast the ownership internally and externally. We run the company based on our organizational structure, not on our ownership structure.

**Alafat:** When you came in, they were hopeful you were the right person to take over, but they would not have known that right away. Later, as it became obvious and it was closer to the actual transition date when you would take over as CEO/president, did you do anything at that point to communicate the transition that was going to take place to make sure it was going to be well-received?

**Brague:** We did underground a bit. There was no broad communication. We made an announcement about the change in the leadership of the company, but we never made an announcement about the change in ownership of the company. In the past, we had problems with minority shareholders trying to use that as leverage for power in the organization, so we try to downplay whether you’re an owner or not in the company. It is not publicized or broadcast in any way. People have their positions in the company, and that’s how we operate.

**Alafat:** How was the positional piece, the leadership transition, talked about?

**Brague:** There were subtle cues and hints. Bart handed over a lot of responsibility, but I don’t think there was a commitment that, “Hey, this is going to happen in this time frame.” That was never communicated.

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**We don’t broadcast the ownership internally and externally. We run the company based on our organizational structure, not on our ownership structure.**
Alafat: So was it just announced one day that you were the new CEO/president?

Brague: It was pretty sudden — probably a month’s notice. I don’t think anyone was surprised. I think everybody saw the writing on the wall, even though it wasn’t formally communicated.

Alafat: It sounds as though there were some individual conversations taking place so that the people who needed to know, knew. What was the most difficult part of this process?

Brague: The last 90 days took much more time and energy than I had imagined. It took us almost a year to work through all the mechanics of the structuring of that change. To be candid, I felt like our business lost a little momentum and focus. There were certain things I thought we could have handed off better. We both made assumptions as to who was doing what — that was an area on which we could have improved. We made sure we didn’t lose focus on our operations by doing this demanding changeover on the ownership piece.

Alafat: What would you do differently if you could do it over?

Brague: I would put myself in the role as president and have Bart step aside, but still coach me behind the scenes. Bart felt like he needed to have a clean cut and step away. In some ways that helped me out a lot, but I wish I had more of his wisdom and insight on an ongoing basis. We have very different styles. He wanted to respect the way I wanted to run the business, and it would have been hard for him to coach me without feeling as though he was stepping over me.

Another thing I would do differently is have a third party involved. A third party could have helped facilitate the discussion. It really gets difficult with all the emotion involved in this type of thing.

Alafat: What advice would you give to other contractors looking to enact an ownership transition and management succession process?

Brague: First and foremost, you’ve got to make sure you find the right person.
Second, it takes years — you cannot do it in six months. You have to plan five-plus years ahead. It is a long-term commitment. It takes a lot of planning and preparation to make sure you’re developing that next generation to take over. When you step out there is a lot of faith that it is going to carry on the business and protect all the equity you’ve built up.

There is a huge difference between an owner and a manager. It’s almost different skill sets. The way we are structured, every owner is a manager. We do not have any external shareholders, and that is really important to our model. We want every manager to have some skin in the game.

Alafat: And this management succession process will begin again at some point.

Brague: Yes, I feel like we’ve already started. We have a couple of high-potential leaders who have taken that first step. We will give them more responsibility over time and give them opportunities to increase both their responsibility and ownership.

There are several key points all construction company owners can learn from the Casey transition, including:

- It is important to select the right leader or group of leaders. The incoming leader should be a deep cultural fit. In contrast to Casey’s selection of an outsider, most firms find success with an internal candidate because an outside candidate is not steeped in the culture.
- The ownership transfer and management succession process often takes longer than planned. FMI’s advice is often to keep a 10-year time frame in mind in a transition, due to the time needed to buy out existing owners in an internal sale (the most common form of transfer in the industry) and to allow for the transition of key relationships.
- Successful transitions do not happen by accident. Instead, they are the result of clear vision, long-range planning and the systematic development of leaders capable of leading the next generation of the business.

Construction companies facing their own impending ownership can use many components of the Casey Industrial transition as a template for success. Done correctly, this is a smooth, once-in-a-generation process that transfers financial ownership as well as psychological ownership, while preserving the founding principles and culture of a firm.

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“The final test of greatness in a CEO is how well he chooses a successor and whether he can step aside and let his successor run the company.”
— Peter Drucker
In the late 1800s when John Wannamaker, founder of Wannamaker’s Department Store, circa 1875, made the observation that, “Half the money I spend on advertising is wasted; the trouble is I don’t know which half,” modern advertising was in its infancy. Wannamaker was an innovator who gave us not only modern advertising but also the American department store chain, price tags, employee benefits and many other ideas that have entered the fabric of our consumer culture.

If Wannamaker’s observation still holds true today and can extend to all the money spent on getting work, construction industry contractors could be wasting around $1.25 million on every $100 million in revenue. According to FMI’s survey of contractors conducted in partnership with Associated General Contractors (AGC) members, 38% of respondents spend between 2% and 3% of annual revenue on targeting and winning work. This begs the question, What portion of the investment that you are making to win work is wasted?

How do you know if you are spending too much or too little on your business development efforts? Spending too much eats into margins for projects you win,
while not ensuring that you win more of the projects you bid. Spending too little leads to engagement so late in the selection process that it feels like the only selection criterion customers use is price. Customer feedback only exacerbates that feeling. When challenged to provide a reason for not picking a contractor, it is too easy for a customer to claim, “Your price was too high” rather than getting into the specifics of how you could have better shaped the opportunity. Of course, price has an impact and universally will be one of the customer’s top criteria. As a result, every company must price competitively. The challenge comes from finding areas in which to add unique value in your approach that makes price simply one of the selection criteria used, but not the only one.

The AGC of America and FMI Corporation recently conducted a business development survey to find the leading strategies that contractors are using to get positioned to win work and stay ahead of the competition. Although there is no single formula to determine which portion of a contractor’s investment in business development is wasted, the survey points to several interesting insights into what is and is not working for contractors in these challenging economic times.

In total, 305 contractors responded to the survey in the fall of 2011. They were a mix of general (70%) and subcontractors (30%) from across the country. The respondents ranged from firms with more than a billion dollars in revenue to firms with less than $25 million in revenue. In many cases, survey responses for the largest and smallest firms in the survey were amazingly similar, leaving the midsized firms scrambling to find clear market strategies.

STRATEGY OF BUSINESS DEVELOPMENT

Strategy is the place to start when evaluating where contractors are wasting or winning with their business development investment. Strategy answers the questions of “how” to win work and what work to pursue. Good business development is the strategic alignment of resources required to win the work that achieves the vision of the firm. The company sets its vision through strategic and business planning. It is business development’s role to make sure that sufficient projects are won with the right customers, on the right projects and in the right markets so that the vision is realized.

Business development is the get-work function for the firm. It is the combination of all of the firm’s efforts to identify and win customers. It includes doing what it takes to win both first-time projects for new customers to repeat projects with long-established and cherished key customers. No longer is business
development simply a department of people down the hall whose job it is to seek out future opportunities. Today business development includes everyone in the company whose work affects the customer.

Business development should identify the slice of the market you want to own. It develops the reason the customers in that segment should pick you and communicates those reasons effectively to the marketplace. Effective strategy must identify the skills, knowledge, processes and tools that your team will need to be successful, and then align the rewards, feedback and resources to make sure the strategy is implemented successfully.

Business development is comprised of three key elements: marketing, sales and customer service.

Marketing is the image side of the business. It is what you communicate to influence what customers and potential customers think about the firm from when driving past a job sign around town to when they are working with you on projects. Though marketing is often misunderstood, it has two priorities: keeping in touch with existing customers and warming up future prospects to buy on some criteria other than price. Too often, marketing functions are viewed as working on proposals and making collateral items look professional. While proposals and collateral are important elements, marketing needs to align with the strategy for the company if it is going to be able to drive tangible, measureable results. Marketing creates the first half of your company’s brand, while customer service delivers the second half.

The second element of business development, sales, is frequently the most visible portion of the business development mix. Sales involves targeting the right customers and the best opportunities. It is creating a compelling reason to select you over the competition, which means providing the customer a credible business reason to choose you and your team.

To be effective at selling your company and its approach, you must have a deep understanding of what your competitors offer and how customers would like to receive something different. These differences create opportunities for your firm to add unique value on a project that will lead a customer to select your firm for reasons other than price alone. The challenge with creating a selling approach that differs from competitors is that customers know your competitors through firsthand experience, while you are looking out on the competitive landscape through the lens of your own firm’s experience.

A brand is nothing more than the promises the marketplace perceives you to make.
Customer service, the third piece of the business development mix, is the process of delivering on promises made in marketing and selling efforts. It is the best way to ensure that the customer picks you for the next project. As the second half of the brand, customer service is about being consistent and delivering value to the customer. For a service business, like a contractor, a brand is nothing more than the promises you make to the marketplace that you fulfill. It is customer service that wins you the second, third, fourth and even 12th project with the same customer.

Effective business development strategy is therefore about identifying a slice of the market where you can successfully target, win work and execute for a profit.

STRATEGY AND PROFITABILITY

Ultimately, the true test of an effective strategy is the result of that strategy. In this case, the results are the work won and the profit margin achieved. Revenue alone is not sustainable over the long term for contractors. Though getting just revenue may be easier, successful companies that stand the test of time only pursue volume if they can achieve both. Effective business development strategy is therefore about identifying a slice of the market where you can successfully target, win work and execute for a profit. It requires you understand why a customer would pick you over the competition as well as how your firm can profitably deliver the work in the manner desired.

Competition on prices is certainly a legitimate go-to-market strategy, if you can produce sufficient profit doing so. Many contractors have been able to be a low-cost provider and make money at the same time. Survey results, however, revealed that contractors who identified price as their key differentiator were less profitable than companies that felt they competed on other criteria, such as reputation, relationships or expertise (see Exhibit 1.)

Overall profitability during the Great Recession was mixed for contractors. Some did surprisingly well in spite of down markets, while others suffered because of them. When compared to two years ago, more than one-quarter of respondents reported greater profitability. An additional 19% reported the same profitability, while 55% reported lower profitability.

While winning work is the first step, the effectiveness of strategy is seen in a firm’s bottom line. Some contractors were better at transitioning to the realities of a new market than others that continue to struggle. When defining strategy, think about a “slice” of the market where you can succeed and the measurable outcomes that success will generate for your firm.

26% of respondent companies are more profitable today than they were two years ago.
For example, you would not pursue all of the retail construction in a 100-mile area, but instead would identify the type of customers or projects that you have the capability to target, win and execute effectively. Contractors successful in building robust backlogs are likely to implement strategies on a series of markets simultaneously. Example strategies might include:

- Targeting private developers in northern California that have purchased additional land in the last year and generating 10 additional projects opportunities in the next 12 months.
- Getting positioned with the top North American retailers that are expanding significantly into Canada to generate additional project opportunities of $65 million.
- Locating municipalities in a 100-mile radius that are struggling with their local budgets and would consider public-private partnerships as a means of handling their paving needs to generate additional revenue of $40 million a year for the next three years.

When revenue, number of projects or other measurable targets are identified as part of the strategy, it is easier to recognize the “right” investments needed to be successful. To help identify the right investments, think about:
• What is the right team to lead the strategy?
• What resources will be needed (i.e., time, money, information and people)?
• What additional knowledge, skills and abilities will the team need?
• What changes are necessary in organizational structure or individual roles?
• What rewards and feedback systems support the right outcomes?
• How do you measure the progress toward the strategy implementation?

**SPENDING IN BD**

One of the most commonly asked questions by contractors is “How much are other contractors of my size spending on business development?” The answer depends on strategy and on what is included in spending.

Today, effective business development is not a department; rather it is a companywide effort to target and win the right projects and customers. It is the role that operations plays in keeping a customer for life. It is what pre-construction does to create a unique approach on the project that captures the customer’s attention. It is what senior managers do to build deep, meaningful relationships with the leaders of the customer’s team. It is the role that everyone plays in winning the first job with a customer and keeping the customer committed to your firm for future work. That role is too big to be the role of a department that happens to have “business development” on its business card.

Spending in and of itself does not correlate to firm profitability. Of survey respondents that broke even or had a net loss in the last fiscal year, nearly half spent more than 4% of revenue on targeting and winning work (see Exhibit 2.) Clearly, some of this money is wasted.
More than a quarter of firms that reported a net profit in the last fiscal year also spent more than 4% of revenue on business development. Spending big on business development is not only for the largest of companies. Based on the survey responses of smaller firms, those firms also spent a significant percent of revenue on business development activities, with nearly 40% of respondents of smaller firms spending more than 4% of firm revenue on targeting and winning work.

Interestingly, more midsized respondents spent less when compared to both smaller and larger firms (see Exhibit 3). A greater percentage of midsized respondents reported spending less than 1% of revenue on targeting and winning work than smaller or larger firms, while a smaller percentage of midsized firms reported spending more than 4% of revenue. Midsized firms also had the lowest average hit rates across multiple types of work. While numerous factors affect hit rates, it is not likely a coincidence that the revenue group that reported spending the least on business development also reported the lowest hit rates on average (see Exhibit 4).

While numerous factors affect hit rates, it is not likely a coincidence that the revenue group that reported spending the least on business development also reported the lowest hit rates on average.
BUSINESS DEVELOPMENT SURVEY
Respondent Demographics

Respondents to the AGC-FMI 2012 Business Development Survey consisted of CEOs, presidents, owners and other executives as well as other business development professionals from a broad range of industry participants.

Of respondents, 82% operate with a regional footprint, 15% operate nationally and the remaining 3% have an international footprint. By revenue, 73% percent report firm revenue of less than $100 million, 22% report firm revenue between $100 million and $500 million and the remaining 5% report firm revenue of more than $500 million.

Respondents largely participate in vertical building markets, with 88% of respondents working in commercial building markets (commercial, lodging and office) and 80% participating in institutional markets. Half of respondents (52%) report business in the manufacturing sector. Just over one-third (37%) operate in either single-family or multifamily residential construction.

The design of a firm’s business development is a function of the organization’s strategy, size and markets. As such, the right structure differs from one firm to the next, dependent upon all of these factors.

Firm Performance

According to U.S. Census Bureau statistics, construction spending has stalled at $800 billion annually during the past two years. That is two-thirds of its peak volume of nearly $1.2 trillion in 2006. Understandably, the profitability of respondent firms was challenged during the past two years. When asked how firm profitability compared to two years ago, 56% of respondents were less profitable and another 18% reported the same profitability. In fact, 17% of respondents did not report a net pretax profit in the last fiscal year.

The design of a firm’s business development is a function of the organization’s strategy, size and markets. As such, the right structure differs from one firm to the next, dependent upon all of these factors. The most noticeable trend that differentiates profitable firms from their peers is the revenue share of repeat business. The share of revenue from repeat business increased over the past two years for profitable firms, while the share for less profitable firms was more likely to stay the same or decrease.

CONCLUSION

As the survey results indicate, simply spending more time and money on business development is no guarantee of profitability. Business development activities, which include marketing, sales and customer service, do set your firm
up to win work and retain existing customers when done effectively. Winning work, however, is only one side of the equation. For business development to translate into firm profitability, you must understand what it takes to win work and retain customers in markets and with projects that your firm can execute profitably. When business development is part of this holistic view of your firm’s skills, knowledge and capabilities, it is a key ingredient in enabling the firm to achieve its strategic goals.

Business development at successful firms is more than a department. It is a companywide approach to targeting and winning the right customers and projects for the firm to achieve its strategic goals and remain profitable. These firms are less concerned about whether or not they are wasting money on winning work because these costs are associated with specific, measurable outcomes that align with strategic goals. Such a robust process allows a firm to evaluate how much it should spend on which project opportunities, and which it is better passing on because the potential of winning or the value of winning is too low. Challenge your team with the question: How do we know if we are spending too much or too little on business development?

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Your company has finally made it through the troughs of the 2000s and is now experiencing new growth. What was once a small family-owned business is now on the brink of becoming a global force. In the company’s early stages, training was easy. Bring everyone in for a one-to-two day seminar, offer food and drinks, and send the employees on their way with advanced knowledge and skill sets. As your company grows, training sessions become less local and more regionalized. Planned training sessions start two to three months in advance of the teaching, dates need to be set aside, and everyone will need to be taken out of the field and flown in for a one-week seminar.

Now this formula is even more complicated with a global presence. How do companies with a global footprint train all their employees, create content that is in languages other than English and keep track of their efforts? There are numerous answers and solutions to this problem, but most answers begin with a learning management system, otherwise known as an LMS.
A learning management system is the modern way companies track their employees and deliver Web-based training. Wikipedia defines an LMS as: “A software application for the administration, documentation, tracking and reporting of training programs, classroom and online events, e-Learning programs and training content.”

Think of an LMS as the instructor who is in front of the classroom and handles all of the administrative tasks. This article focuses on e-Learning, the benefits of an LMS and the considerations of this type of solution. First, to understand a learning management system, it is helpful to understand the story of e-Learning education.

**E-LEARNING**

Like it or not, e-Learning is moving into most industries and becoming a popular way to teach adult learners. Google searches and websites are riddled with advertisements for online universities, new certifications and skills trainings. In the downturn of the economy, more people turned to education, either to make themselves more marketable to an employer or to switch industries. We see this in rising populations of students who are taking advantage of a slower economy to get that training they have had on the radar.

We can track acceptance of e-Learning through a policy paper published in July of 2010 from the Center for College Affordability and Productivity. The U.S. Department of Education reported that “between fall 2006 and 2008, the number of students taking at least one online course increased by 32% (3.5 to 4.6 million).” The report also states that the percentage of students in higher education taking at least one distance-learning class is on the rise. This number grew from 19.6% to 25.3%. In addition, the percentage of undergrads who engage in distance education grew from 16% in 2003–04 to 20% in 2007–08, and for post-baccalaureate students, that number rose to 22%.

So what does this mean? As we see more students attending universities, one-fifth are taking classes through distance education, outside of the traditional classroom. Most of this learning occurs through a Web-based tool. In addition, there are almost 4 million people taking higher education courses that are receiving distance education.

The impact of this is twofold. One, students are counting on distance education as a reliable source for training and learning to advance their skill sets. Two, schools and training groups are more confident in using distance education, including online learning, to share information outside of the classroom. This confirms that the top educators in the United States trust e-Learning as a reputable
tool to train people. It also highlights the fact that most students are familiar with e-Learning and have used it previously. Therefore, learning curves associated with this method of training are much lower.

**TYPES OF E-LEARNING**

The National Center for Education and Statistics defines distance education as “live, interactive audio- or videoconferencing; prerecorded instructional videos; webcasts; CD-ROMs or DVDs; or computer-based systems accessed over the Internet.” Of the seven mediums listed above, only two in the group do not involve the Internet or other form of a Web-based product: CD-ROMs and DVDs. The others are Internet-based and classified into two groups: synchronous and asynchronous learning.

**Synchronous Learning**

Synchronous learning can be thought of as learning that takes place at a scheduled time. Instructors will plan a meeting or training where all learners will be online simultaneously. These types of meetings are generally conducted through a conference call and a computer sharing application. This allows all students who take part in the training to view what is on the instructor's computer screen. This can be thought of as the classroom version of a course; the only difference is that the class is held virtually. The instructor still leads the discussion, but students are able to give feedback in real time so everyone can learn from each other’s questions and examples.

Web-sharing software allows instructors to poll students, share videos, stream live video, take surveys, ask questions and share the instructor’s desktop. All of these features mimic the classroom setting, engaging students to ensure they are learning. Students often say they learn best in front of a teacher. Synchronous learning makes that connection without students having to travel to the classroom. Live computer-based learning can often take place over a desktop computer, and now, in addition to computers, students can attend anywhere from their mobile phones or handheld tablet devices.

**Asynchronous Learning**

Asynchronous learning is the do-it-yourself part of the e-Learning package. These modules can range from a simple Web-based application to a 60-minute lecture and instruction. It differs from its synchronous partner by not having a time foundation to lock in when it needs to be completed. Therefore, asynchronous modules are designed as a precursor or follow-up to any classroom training or synchronous learning. A great deal of time is needed to create these modules for student use, requiring planning well in advance of a student taking the class.

There are several benefits to this type of learning in the e-Learning package. First, it can be completed at any time by the learner and in any geography. Since there are no instructors involved, students can take this type of component in their free time, at home or work. Scheduled classes, extended workdays and after-work activities have no effect on when the module is completed. Most often, deadlines are imposed to ensure pre-work is completed before a classroom portion of the training.
Next, e-learning modules take the lecture, or in some case the teacher, out of the classroom. Teachers in a lecture spend a great portion of the class explaining definitions, highlighting key points and bringing the class up to speed. The online module’s design takes this portion of the classroom learning and packages it into material that is completed at home. By bringing everyone up to the same learning level, students can spend the majority of their classroom time working through examples, learning with others or participating in a workshop. This is also thought of as the “flip method” where the lecture is done out of the classroom and the classroom is reserved for homework and workshops.\(^4\)

Finally, asynchronous learning allows a student to learn through repetition. Modules can be set up before and after a classroom learning experience. The first module brings awareness and defines key terms. Next, the classroom is set up as a workshop to work on key skills. The last module reinforces the material. Therefore, by being exposed to the information multiple times, a student moves from awareness to implementation. Most training courses on the market today deliver information making students aware, but never checking to see if the new material is integrated into their daily activities. This is an area where many training programs fall short. Asynchronous modules, with the assistance of an LMS, are triggered before and after a synchronous training event. The repetition, along with the in-classroom workshop, takes the user to “conscious competence” in the four stages of learning.\(^5\) This is where a student understands a new skill and knows how to demonstrate it.

### LEARNING MANAGEMENT SYSTEMS

Many organizations have an understanding of e-Learning and the content that is involved, but many times, there is a deeper question that is unanswered. How do we get this information to our global work force? These answers become easier as we see readily available e-Learning on the Internet. The growing number of solutions raises additional questions of best choices. Those choices are made based on their advantages to the organization’s needs.

### Benefits

As stated earlier, the LMS acts as the administrator to the virtual classroom by hosting students, presenting material, keeping track of grades and sharing statistics. Therefore, it is the learning management system, not the e-Learning content, which takes training to a global scale. An LMS solution simply takes content and hosts it on a server. Depending on which solution is chosen, this content will sit either on an internal server or with a vendor. Either way, the information is virtual...
and sits on “the cloud.” The cloud allows content to be accessed anywhere there is an Internet connection, anytime of the day. This means trainers do not have to spend their time crisscrossing the globe to deliver in-classroom training. It also means companies may not need to hire new trainers to help educate the expanding workforce. Work product of existing trainers may be scalable across limitations of time, geography and student populations.

Trainers can use synchronous tools to host live training with user groups across the globe. Students log on to a Web program to see what the trainer has on his or her screen. Trainers can refocus their efforts on creating new content for training initiatives and providing personal feedback to those who need additional attention. Through travel reduction, time formerly spent at airports, in the air and in auto travel can be better used in production of new materials or working with greater numbers of people in strategic learning areas. Recovery of lost time is only a small piece of savings through use of LMS when compared with the actual costs of travel. In the U.S., flights range between $200 and $800, depending on when they are booked and how far the trainer is traveling. Adding rental car fees, gas, food and hotel expenses means that a four-day training session can easily cost a company more than $1,250 in travel expenses alone for each trainer (and each student who travels to the training site). If one of these trainings takes place every month, an annual travel bill can add up quickly to $15,000 or more per individual. This figure can increase dramatically if traveling between foreign countries or making multiple trips in a month. Savings from eliminating travel adds money back to the bottom line by cutting out personal travel expenses.

**Basic Features**

Basic features of most all LMSs help with day-to-day activities of training departments. Features such as email, integrated calendar, bundling, course rules, hierarchical structure, basic reporting, surveys, assessments and discussion boards bring ease of use to students and administrators alike. Prior to an LMS, trainers had to keep up with all of these functions individually and across several different training programs. With the assistance of an LMS solution, a trainer can use one program to keep track of upcoming trainings, send reminder emails, report on grades and usage with ease, and bundle multiple synchronous and asynchronous classes together. On the reverse end, an LMS allows learners all over the world to communicate, stay informed and analyze their training progress through one platform.
Advanced features

LMSs also have advanced features that assist workforce management with a regional presence or those with a global force. When employees leave the organization, an LMS can assist sorting through a database of employees to see who has the necessary skill sets to replace the former employee. It can even help in setting up a training program to bring the new successor up to speed. The same is true for onboarding a new employee. When a new employee starts with a company, a predetermined course listing can be given to him or her. This could be a mix of operations, technology, supervisory skills, interpersonal behavior, safety/OSHA training, ethics training, as well as basic culture and expectations training.

When a company goes from local to global, there are often language barriers that prevent employees from completely understanding their instructions. Most LMSs have language features that can readily translate directions into other languages. Various LMSs have different capabilities, but it is possible to have instructions translated into 30 or more languages.

Enterprise functionality also allows departments to charge for training. Here an administrator can post a training program, and if a student or manager feels it is applicable, he or she can charge it through a coupon system or even “swipe” his or her credit card to charge for the training. This can turn the training department into a profit center or at least seek cost-neutral organizational status.

Things to Consider

After analyzing current training needs and projected growth, your company has decided it needs to move forward with implementing an e-Learning program. There are multiple items to look out for and questions to ask along the way. By conducting the proper analysis, it will become clear whether e-Learning is important to integrate into your training program.

The first consideration is what the effect is of minimizing face-to-face training. If trainers are not making their way into the classroom, what effect does that have on the student? In a survey conducted by ecollege.com, “85% of the faculty said their students learned equally effectively online as on campus. Some said their students did even better online than in traditional classroom settings.” That still leaves a percentage of students who did not perform as effectively, so it will be important to track those learners to see what additional training they may need. There is also a reduction in learning from others through e-Learning. A training class is usually a great opportunity to meet others and share common interests and best practices from the field. If the classroom is taken out of the equation, then this interaction is greatly reduced. Therefore, it is important to hold synchronous meetings and gather input from the training group. Group projects should be integrated so employees can learn from others and form relationships with their team. Socialization of the workforce remains a strong ingredient in developing team behavior and organizational loyalty.

The second most important consideration is cost. There are many barriers to entry when getting started with an e-Learning program. Every piece of changing a program has a monetary value. Deciding on an LMS, creating content, outsourcing content, training the trainers, hiring support staff (IT, graphic artists, instructional designers, etc.) and training students on how to use the new solution are expenses
It is important to include post-course assessments to see what students and their supervisors think of the training benefits as they impact on-the-job performance.

that must be considered. Most of these are upfront costs; however some are recurring costs, such as the LMS yearly fees and the addition of any new salaries. The good news is that content creation is all on the front end. Once costs are totaled, results can be analyzed along with the costs savings. “IBM saved US $200 million in 1999, providing five times the learning at one-third the cost of their previous methods” through their e-Learning initiative. 7

Finally, it is important to follow up on how students are learning from their training. Without the availability of students directly in your classroom it may be difficult to tell if they are getting the most out of their training. Therefore, it is important to include post-course assessments to see what students and their supervisors think of the training benefits as they impact on-the-job performance. Uniform reporting and analysis are also other great ways to compare students’ results on tests and completion rates. Both assessments and analytics provide indicators for overall success in the e-Learning program.

ANALYSIS

E-Learning and learning management systems are great tools and solutions that help companies expand as they leave their local geography and move into having a global presence. It can be a tricky road, so it is important to analyze all of the pros and cons before integrating this new type of system. Studies show that more training programs are moving to distance education and achieving great results. As the baby boomers move on to their post-career lives, it is essential that their replacements are ready to handle the workload handoff. With more students and professionals familiar with the e-Learning platform, LMS may be the solution to assist companies with transitioning employees. It is not a solution for everyone, and has challenges to implement. With a dedicated team and training department, implementing a new distance-education platform can ensure success and save money, all while training a growing and global workforce.

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2 Ibid.
6 Ibid.
There are many clear and immediate impacts of the Great Recession in the construction industry. Nearly all leaders face the challenges of dwindling backlogs, fierce competition leading to seemingly irrational pricing, and a more demanding client base. As painful as these issues are for leaders, it is the next generation of leaders who will feel the impact of this recession most deeply.

Consider how the events of the past four to five years will shape the values, beliefs, expectations and ultimately the leadership style of a typical employee who reaches a level of significant leadership responsibility in the year 2022. Most leaders tend to overestimate the amount of change that will occur in the short term, while underestimating the change that will take place in the long term. Imagining the world of a typical 2022 leader, the design and construction industry executive begins to prepare for a war for talent that will define the competitive landscape of the future.

Many would believe that the war for talent, characterized by the long boom of the early 2000s, has ended and the clear winner was the recession. However, the war for talent is not over. In fact, it has accelerated and deepened in ways that are less observable. During the recent recession, 2 million jobs have been lost within the A/E/C industry, making up 25% of the total national job loss in all
industries (8 million in total). In a sector that already faces an uphill battle to appeal to next generation leaders, the design and construction industry has laid off and, in many cases, permanently lost a significant pool of talent to other faster-recovering industries. Even the most optimistic leader cannot believe that a long-term unemployed construction professional would not change industries when the stakes involve paying a mortgage, feeding his or her family or being able to move out of the parents’ basement.

Many recent college graduates with proficiency in computer-aided design (CAD), building information modeling (BIM) or other design and information management applications are moving into industries other than the design and construction industry. The desirability of a career in this industry has diminished significantly due to the volatile and uncertain nature of our business. These recent college graduates now seek employment in the Web, graphic and IT systems design consulting fields. They are taking their skills, initiative, fresh thinking and leadership with them into these alternative industries at a time when the design and construction industry needs them the most.

While it is difficult to predict the future, trends are continuing to reveal that talent in the A/E/C industry will think and act much differently than ever before. This creates a disconnect between how we are leading our workforce today and how we will need to lead our people in 2022. This leadership becomes much more difficult when it comes to influencing a workforce that is becoming more diverse than ever before. Our workforce in 2022 will deal with clients, supply chains and regulatory agencies having different cultural, political and institutional backgrounds. In most societies, people are socialized to learn how to work with people who share similar backgrounds, education and worldviews. They develop a single cultural perspective that helps them understand and learn from their immediate surroundings. While that has been appropriate in homogeneous cultures, it is becoming an obstacle for the diverse future. Organizations, competitors and regulatory agencies are already requiring our workforce to work with people who are different from them in many ways. Understanding the underlying values, beliefs and assumptions of the next generation will be an indispensable tool for tomorrow’s leaders. Following are several factors likely to affect the 2022 workforce.

FACTORS DRIVING CHANGES IN THE A/E/C WORKFORCE

Many factors are and will influence the way the 2022 workforce develops. Leaders need to acknowledge these emerging influences and plan various response scenarios if their companies are to remain competitive in the future marketplace.
While the list of factors influencing the future workforce is extensive and evolving, we feel the following will have significant influence on the future workforce.

The Great Recession

The events over the past four years profoundly shaped the way the next generation and future workforce will view the role of politics, economics, leadership and job security. Research suggests that the critical formative years for young people are between the ages of roughly 11 and 13. During this time, adolescents are trying to piece together and make sense of a world that presents conflicting, confusing and chaotic signals. It is likely that a generation bombarded by the complexity and uncertainty of terms such as “subprime crisis,” “underwater mortgage” and “government bailout” will be more skeptical of authority and the way it influences our thinking, coupled with recent scandals and swings in the economy. This generation will view the future and its organizational life differently given the volatility it is witnessing in the industry now.

Globalization

Globalization has a growing impact on the way our workforce thinks about and approaches business. Workers are no longer viewing the marketplace at just a domestic level but more frequently at a global level. Increased competition on U.S.-based projects from large global firms in rising economies such as Brazil, Russia, India and China (also known as BRIC countries) is forcing leaders and future leaders to rethink their strategies and approaches to business. It is estimated that by 2022, the BRIC countries will be dominant economic influencers in our industry with their low-cost production, emerging technologies and diversified funding.

Changing U.S. Demographics

With the baby boomer generation (born from 1946–1964) retiring, the millennial generation (born 1981–1999) is already establishing a presence in the modern workforce. This large generation will make up approximately 47% of the U.S. workforce in 2014, and by 2022, it will be the vast majority. The implications of having a newer generation enter the workforce are significant, as leaders will need to learn how to lead them differently than previous generations. The U.S. demographics are changing on another level as well. For example, more Latinos are entering the workforce. It is estimated that by 2022, Latinos will make up more than 30% of the U.S. workforce, a significant demographic shift. Sensitivity
Forecasts are seeing an impending skill shortage for future leaders and employees as jobs continue to require a complex set of skills, such as strategic thinking, decision making, problem solving, analysis, relationship building and collaboration with others.

Knowledge Economy

Over the past several decades, the United States and other developed countries have been transitioning into more of a knowledge-based economy than a commodity-based economy. Forecasts are seeing an impending skill shortage for future leaders and employees as jobs continue to require a complex set of skills, such as strategic thinking, decision making, problem solving, analysis, relationship building and collaboration with others. In 2022, advanced firms will be experts at talent development, adopting new technology and identifying (and responding to) emerging political and social trends. All of this is gained through deeper, diversified knowledge about how the industry operates and how to lead organizations effectively.

Shifting Technology

Technology will continue to shift in every aspect of our business whether it is in the form of BIM technology or cloud computing for your customer relationship management software. The sheer speed of knowledge generation and transfer continues to increase at exponential rates, and organizations need to keep up if they want long-term success. Future generations are more technologically savvy and technology-dependent than any other generation. Consider the following facts:

- 50% of 11 year olds have their own cell phone
- Children aged 11 to 14 spend, on average, 73 minutes a day texting
- More than 25% of 2- to 5-year-olds and 40% of 6- to 8-year-olds use the Internet
- Amount of time children spend online daily has tripled in the past 10 years

Technology is driving the learning and development of our future generations. Within the next 10 years, some of these children will enter the workforce, along
with their beliefs and preferences for using technology. This movement has the potential to change the way we operate forever. One benefit of this shift is that this generation can adopt and implement new technologies with much greater ease. What is less certain, however, is how these technological natives will adapt or influence the traditional leadership development model, which relies on continual face-to-face personal interaction.

**Increasingly Connected Environment**

Work is becoming a place to collaborate, exchange ideas and continuously communicate with colleagues and customers. Social media, smartphones, email and video chat (Skype, Face Time) keep leaders and their employees constantly connected to each other. Some of the downsides of an overly connected world include distractions, lack of focus and oversharing of information to clients, colleagues and the industry. On the other hand, connectivity increases collaboration and builds trust in leadership by sharing personal insights, interests and thoughts on various topics. On an organizational level, it increases your marketing and brand management (in ways that can be both positive or negative) and can be a way to gain knowledge and share ideas within the industry, organizations or teams. The ways in which organizations develop a culture of collaboration will become a significant competitive factor in attracting and engaging top talent in 2022.

**Leadership Development Through Corporate Social Responsibility**

Future talent often views organizations that implement corporate social responsibility (CSR) programs as more desirable places to work. Talent is further attracted by organizations that embed leadership development opportunities into their CSR programs. Some companies use programs where high-potential leaders work for a local business for a period of time in local, national or world locations where their organizations anticipate future growth. This interesting leadership development trend is a fresh, innovative way for organizations to break into new markets. It also helps develop future leaders within an area of interest for growth and helps achieve strategic business goals at the same time. It can be used as a way to build diverse, global thinking among high-potential employees.

Given the factors listed above, leaders will need to become more agile and adaptable when evaluating and planning for their future workforce. No one can predict the future, but we do know that it will be even more volatile, uncertain and complex as we transition into the next generation of leadership. If leaders do not start to acknowledge these factors and start to prepare for the future, they run the risk of being left behind.
WHO IS THE IDEAL 2022 LEADER?

Today’s leaders are required to perform at different levels than previous generations. They are required to have great business acumen, deep industry knowledge and expertise and lead the dynamic workforce that makes up the A/E/C industry. The 2022 leadership profile will look somewhat different given the changes on the horizon (see Exhibit 1). When selecting leaders for an uncertain future, construction leaders should look for the following characteristics:

Diverse

Future leaders will be more diverse than ever before. They have more range in their cultural background and worldview, given the increasing diversity in markets. Education and leadership development around the world is filtering into the U.S. Many foreign-born CEOs are running major A/E/C organizations successfully and bringing fresh perspectives to their workforce. Boards of directors and senior leadership teams are seeking more diversity within their leadership to broaden the organization’s strategic perspective and deepen their talent base. Diversity in leadership lends fresh, innovative and strategic thinking, which is essential, given the evolving environment in which we operate.

Culturally Intelligent

Whether your organization is operating on a global scale or not, leaders are constantly interacting with clients, competitors, subcontractors and employees from different cultural backgrounds. Future leaders will have a seemingly native ability to motivate, inspire and interact well with others despite cultural differences. They will have the ability to move beyond the knowledge and sensitivity of single cultures to an aptitude for cultural intelligence. Cultural intelligence (CQ) is the capacity to adapt to unfamiliar, ambiguous, culture-based beliefs and attitudes of the people with whom you interact. In other words, people with high CQ are able to adjust their own thoughts, behaviors and communication style to match those of culturally different employees. In reality, people are engaging in cross-cultural interactions every day, due to globalization and increasing diversity within the industry. Leaders with high CQ understand their own cultural assumptions and suspend judgments when interacting with others. Effectively communicating with culturally different employees requires the adjustment of verbal and nonverbal behaviors to match the diversity of others. High CQ leaders are better able to manage diverse expectations than their low CQ counterparts are. Recent research links high CQ to several performance outcomes, including better judgment and decision making, negotiation success and global leadership.
effectiveness. CQ has also been linked to higher leadership potential, interaction adjustment and overall mental well-being.

**Innovative**

To successfully lead organizations in the future, leaders will need to be more innovative, adaptable and agile in every aspect of their leadership. This includes their thinking, strategies and actions. The A/E/C industry is becoming more complex, making it harder for leaders to plan. Without an innovative mind-set producing a consistent stream of innovative ideas and without a change-oriented personality, leaders will begin to fall behind the competition. Ability to experience significant changes and adjust to new situations is becoming the new norm. Leaders who find that they do not possess this aptitude to think and react differently have adjusted to their shortcomings by adding other innovative leaders to their team. This helps push the thinking of the entire leadership group, a growing requirement.

**Technology Dependent**

The future leaders in 2022 will not only be motivated and driven by technology, but also dependent on it. Technology will be a major part of these leaders’ lives, both at work and home. The technological advances of the next decade will weed out the past leaders from future leaders. These future leaders will quickly learn new technologies introduced into the industry, embracing them as necessities. Thoughtful and intentional adoption will produce strategic and competitive advantages, a key competency and differentiator for the 2022 leader. We are not just referring to updating their social media accounts, blogging and online social presence. These leaders will be the change champions for new technology implementation for software (office- and project-related), project execution, virtual teams (connectivity) and communication. They will be communicating, evaluating and operating at a very high technology-dependent level, forcing others to keep up or get out. They will change the ways we operate our businesses, redefine what it means to lead others, rebuild communication paths and drive how technology is used.

**Collaborative**

The 2022 leaders will have a collaborative and team-oriented view of their organizations, business units and talent development. The millennial generation that will make up the majority of the workforce by 2022 is known for its collaborative outlook on
working with others. It tends to be more willing and likely to share ideas with others, connecting with coworkers on social media while expecting the same in return. This generation sees success in the work environment as a team contribution, more than individual contribution. The 2022 leaders will see collaboration as ways to brainstorm new ideas, network with others in the industry and get to know their employees better. The people side of work and leadership is vital for future leaders, as they will be required to build more relationships on a deeper level in order to win projects, secure repeat business and get client referrals. The collaborative approach of future leaders will be much more natural than with previous generations due to the surroundings in which they grew up. The millennial generation grew up working in teams throughout their schooling, so connecting with others comes with greater ease. Another trend is that of clients demanding more personal attention as the competition increases, forcing leaders to build relationships, collaborate and develop a deeper, more nuanced understanding of client needs.

While the future for the design and construction industry is uncertain, we do know that the leader in 2022 will have a different profile than what we see today. Leaders today must start planning now so they can build an effective, successful leadership team for tomorrow. Employing the most effective ways to attract and retain the workforce in 2022 will mean success for forward-thinking organizations.

**If development of future leaders is put on hold, organizations will fall behind, leading to a significant competitive disadvantage.**

future leaders. Organizational leaders are responsible for successfully leading your company while developing the next generation. If development of future leaders is put on hold, organizations will fall behind, leading to a significant competitive disadvantage. There are four ways to prepare now for effectively leading the 2022 workforce. To get started now, complete, in order, the steps below.

1. **Clarify Your Organizational Vision**

Leaders today tend to have a shortsighted vision for their organization, given the dynamics of recent years. It is easy to rationalize a short-term focus if you do not know what tomorrow’s changes will bring. It is considerably more difficult to plan and strategize for an ambiguous future. Senior leadership must clarify its
organizational vision and define its next 20–30 years, while maintaining the flexibility of that vision in light of rapid change. A vision consists of your core ideology (core purpose and core values), which is the foundation or your organization — the heart and soul. Your core ideology never changes since it is what your organization was built on and succeeds at. A vision also consists of an envisioned future, which sets the direction for your organization and can change over time.\textsuperscript{2} Having an organizational vision is a way to create clear solutions and solve immediate problems, especially when the answers may not be clear. Your organizational vision will help employees at all levels make decisions without waiting for higher-level direction, since they will know the direction the organization is heading and why you are heading there. It enables employees to make decisions for the long-term when short-term events cloud thinking and often lead to reactive decision making with negative impact on the long term. Clarity around your vision will also help leaders effectively align their vision and empower them to lead and collaborate with others while achieving great results.

2. Build Strategic Partnerships

Leaders today need to start building strategic partnerships based on their organizational vision. Strategic partnerships are mutually beneficial relationships that help multiple parties accomplish their unique strategy, without detrimental effects on the other parties. It is essential for leaders to form trusting, long-term relationships with various people, organizations, communities and associations. For example, building strategic partnerships with organizations internal and external to the A/E/C industry will help your organization in the long term by providing guidance, local knowledge, expertise and networks for the future leaders. As the current leaders continue to retire and transition out of the organization, they can pass off these strategic relationships to the next generation. Building strategic partnerships with a diversified group of people, such as other industry leaders, internal associations, competitors and future employees, will also help current leaders diversify their thinking and worldview around how to lead their organizations.
3. Start Assembling Your 2022 Leadership Team

Successful 2022 leadership teams will be comprised of a diverse set of leaders who have a deep understanding of their business, customers, markets and internal talent. First, organizations must perform a workforce planning exercise to determine where their 2022 leadership gaps exist. A simple way to evaluate where the gaps in your current leadership are is to work through a workforce planning chart (see Exhibit 2). To start, identify a list of your future leadership candidates (likely high potentials that you are grooming for the future). Next, rate each candidate’s necessary skills on a scale of 1 to 5. These skills are listed in the left column of the chart. Depending on the scores, you will be able to see where your gaps in your future leadership exist. If you recognize that one area (i.e., diversity, cultural intelligence, etc.) is low in all of your candidates that will clarify what skill sets you need to start development or recruiting for now.

Once the workforce gaps are identified, organizations can plan developmental opportunities for current leaders where needed. Organizations may need to begin recruiting where gaps in future talent current exist.

Exhibit 2
Center for Strategic Leadership’s Workforce Planning Chart

<table>
<thead>
<tr>
<th>Workforce Planning Chart</th>
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<tbody>
<tr>
<td>Scale –</td>
</tr>
<tr>
<td>1 Significant development</td>
</tr>
<tr>
<td>2 Needs development</td>
</tr>
<tr>
<td>3 Average</td>
</tr>
<tr>
<td>4 Very Good</td>
</tr>
<tr>
<td>5 Ready today</td>
</tr>
<tr>
<td>Candidate A</td>
</tr>
<tr>
<td>Alignment with Company Values – Are the individual’s values in line with your company’s values?</td>
</tr>
<tr>
<td>Leadership Capabilities – Can they lead your people?</td>
</tr>
<tr>
<td>Business and Management Skills – Do they have the practical knowledge to manage and direct projects?</td>
</tr>
<tr>
<td>Relationship Building – Can they build a rapport with individuals?</td>
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<tr>
<td>Understanding of Business Risk – Can they understand how decisions will impact the overall risk of the business?</td>
</tr>
<tr>
<td>Diversity – Do they display diversity in their thinking, experiences and strategy development?</td>
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<tr>
<td>Cultural Intelligence – How high is their cultural intelligence, acceptance and openness to different cultures?</td>
</tr>
<tr>
<td>Innovative Mind-Set – Do they have innovative ideas? Are they adaptable and agile in changing environments?</td>
</tr>
<tr>
<td>Technology-Savvy – Are they skilled at adapting and implementing emerging technologies?</td>
</tr>
<tr>
<td>Collaboration – Are they team-oriented and willing to share ideas with others?</td>
</tr>
<tr>
<td>Potential Career Derailers – Are there personal issues that may cause career problems in the future?</td>
</tr>
<tr>
<td>Total Score</td>
</tr>
</tbody>
</table>
4. Develop Your Workforce 2022

Developing both your future leaders and your general workforce in 2022 is something leaders can start doing now. Preparing your future employees for an increasingly volatile and uncertain world will differentiate your organization through the high quality of leadership. Recognizing and developing areas such as cultural intelligence, technology adoption and implementation, and building collaboration can also help your future employees adapt to their future work environment. Development is most effective by increasing the self-awareness, emotional intelligence and resilience of employees through experience on the job. Other development tactics include mentoring, coaching, attending training programs, taking personal assessments and giving stretch assignments.

FINAL THOUGHTS

As you look to the future and start leading your workforce 2022, remember that the environment in which we operate will continue to shift on a not-so-regular basis. There are many uncertainties about the future of the A/E/C industry, but one thing is certain: The future will be different from today. As the leader of your organization, you choose whether you will start preparing now, or if you wait and see how things turn out. Those who start strategically thinking about and planning for their future workforce will be the ones who make things happen. Those who choose to wait and see will be the ones who watch things happen. Are you prepared to lead and develop your workforce 2022? If not, what do you need to change in order to be ready?

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Senior executives are largely responsible for translating information into something that is relevant to the firm and useful for decision making, change management and to gain strategic foresight. The ability to do so is enhanced by today’s easy availability of massive amounts of data and, at the same time, hampered by that overabundance. We need the ability to identify what could be useful and how to find it. That is, what questions can we ask that, if properly framed, will give us insight? We also need an understanding of what falls outside of the inquiry, what to ignore.

The Alliance for Construction Excellence (ACE) report of January 10, 2012, “The Impact of Deteriorating Margins on the Design Construction Industry,” presents a bleak outlook of how current conditions, including industry consolidation, intense international competition, diminished margins and other factors, could play out with potentially poor long-term consequences for the design and construction industry in the U.S. This think tank calls upon federal, state and local governments to take funding and legislative actions in favor of the
domestic industry, for industry associations and professionals to undertake a public education effort and for universities to conduct research that will inform both government agencies and the public about these important concerns.

In addition to these large-scale efforts, firms may also take direct internal action to become more competitive under the new conditions that are, in most cases, much different from those that they were founded and grown under. The responsibility for identifying and defining such strategic action requires intelligence gathering by senior leaders.

My perspective in this article focuses on defining and identifying what it is that we are seeking. The next article will offer resources for finding that information. The act of turning what is gathered into useful action is a part of strategy, a subject addressed in many articles presented in the *FMI Quarterly*.

To identify what we are seeking, at a level meaningful enough to lead to innovative and adaptive change, requires some work. This internal inquiry is conducted in order to learn what it is we need to know and what questions are most likely to yield the best answers for our purposes.

Why are you looking for information? You may need to reduce the fear of uncertainty for the firm that can hamper us from taking action. Information helps remove fear and prepares us to deal better with uncertain conditions when they arrive.

Information also helps us create a preferred future versus passively being subjected to the whimsy of the marketplace. Given that uncertainty is ever present, our goal is to reduce the vulnerability of the firm to random changes that drag it in unexpected directions: Intelligence can be the ammunition that helps us supersede these vulnerabilities. The wider we cast our net for data and information, the more likely we will discover something that will enable us to think expansively about the firm, the marketplace and our clients’ needs.

Bill Ford Jr., chairman of Ford Motor Company, champions the efforts of all carmakers to take measures to reduce global gridlock, which is projected to have dramatic financial impacts due to congestion as the number of cars rises from 1 billion currently to 4 billion by midcentury. At the Mobile World Conference in Barcelona in March 2012, Ford proposed the concept of “a global transportation network with communication among vehicles, infrastructure systems and individual mobile devices as a way to prevent a future of global gridlock.” Ford has looked at a range of information — economic, traffic patterns, worldwide urbanization of populations, demand for vehicles, cellphone technologies — and sees how these elements can be acted upon now to prevent an undesirable future

(The adaptive organization) can only exist if it has access to new information, both about external factors and internal resources. It must constantly process this data with high levels of self-awareness, plentiful sensing devices and a strong capacity for reflection. Combing through this constantly changing information, the organization can determine what choices are available, and what resources to rally in response. This is very different from the more traditional organizational response to information, where priority is given to maintaining existing operating forms and information is made to fit the structure so that little change is required.

Margaret Wheatley

*Leadership and the New Science*
where revenue-gobbling, multiday gridlock, such as that recently experienced in China, is the norm.\textsuperscript{2} He seeks to create a preferred future.

This vision is not purely altruistic. Unless the gridlock problem is somehow solved, the high costs of interrupted transportation will mean that people, and businesses that purchase large fleets of vehicles, will find other means for moving goods and services. Unresolved gridlock will inhibit the number of cars and trucks that can be sold worldwide.

**EXPANDING YOUR VIEWPOINT: THE ONLY THREE QUESTIONS THAT MATTER**

In the 1990s my colleague Gray Plosser, FAIA, the president of KPS Group, Inc., an architecture firm based in Birmingham, Ala., found himself disappointed and bored with the offerings at architect-centric conferences. He began going only to conferences outside the architecture field and reading books and periodicals outside the design and construction industry. His goal was to expand his thinking and gain perspectives and information beyond the largely self-referential focus of industry publications and conferences. Plosser believes that more inputs and an expanded worldview provoke the kind of creativity needed to lead successfully in the contemporary marketplace.

“One thing I learned from looking at other industries had a direct bearing on the firm’s strategy in the 1990s,” Plosser told me. “I read an article about changes

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**Recent FMI Quarterly Articles on Strategy**

- Schug, J. *Organizational Integrity: Strategic Alignment in Execution*. 2010 #4.
- Appelman, J. *Strategic Planning versus Strategic Thinking*. 2010 #3.

For these and other articles on strategy, please visit FMI’s website at http://www.fminet.com/resources and type in the keyword “strategy.”
going on in the banking industry. Before the 1980s, banks depended on corporate borrowing and the interest paid on that money for their revenue. During the 1980s, businesses began to find other ways to obtain capital that were cheaper and easier than using banks, such as going public.

“As the banks lost revenue, they found new ways of replacing it; one was to move upstream into their clients’ businesses, not by lending money, but by helping them better manage their assets and data. The banks shifted from an interest revenue model to a fee-based revenue model, which has now played out right down to the consumer level.

“The question for me and the firm became how to move our firm deeper into client organizations to become more valuable and essential to clients. That’s when we started getting into facility database management. The firm needed to become less reliant on single projects and more intertwined with our clients’ ongoing needs.”

“A current trend we’re seeing in the world that has caught my attention is the shift in the nature of communities,” Plosser adds. “In spite of the many promises of community offered by online social networking, dating sites, etc., time spent online physically separates us from other people. It doesn’t create community — it prevents community. Without strong communities, we see conditions emerge like the polarization of politics. Once you had to moderate your speech, be polite and consider a wider range of opinions, because you had to live in a community and deal with people on a daily basis who had a range of views. You had to live and work with them, so you were more tolerant of them, even supportive, because regardless of their beliefs, they were members of your community and you had a mutual interest in each others’ well-being.

“In the February 10, 2012, Wall St. Journal, Alain de Botton3 discussed how modern secular society does a poor job of creating and fostering communities, and what we might learn from religion about community creation. He points out that Christian churches create community by setting aside a space, putting walls around it and declaring that ‘within their confines, there will reign values utterly unlike the ones that hold sway in the world beyond. A church gives us rare permission to lean over and say hello to a stranger without any danger of being thought predatory or insane ... The contemporary world is not lacking in places where we can dine well in company, but what’s significant is that there are almost no venues that can help us to transform strangers into friends.’

“As I consider these issues, I wonder. What are the implications? Do we need to take action within the firm to preserve the aspect of community that means a firm? What do we do for our clients that might address these issues for them?”
Plosser believes that if design professionals “have their noses too deep in their daily routines” it affects whether or not they have the truth and whether they are responding to clients in a way that is useful to the clients.

This expansion of viewpoint requires an incisive examination of currently held views. It is easy to get caught up in the flood of industry information that comes in via email, conference proceedings, newsletters. It is much more difficult to step back, look at that data that seems so important and timely and say, “If everyone has this same data and the industry is still in trouble, maybe this isn’t the right data.”

Forbes columnist, author and financial consultant Ken Fisher suggested in his 2006 book “The Only Three Questions That Matter” that there are three powerful questions that can help one cut through to the core:

1. What do I believe that is actually false?
2. What can I discern that others do not see?
3. What is my brain doing to blindside me now?

These questions recognize that we are accustomed to operating from a set of biases and that cutting through those biases and understanding how they work is a key to opening ourselves up to the information we really need.

Current editorials and articles discuss how to expand the national manufacturing base and bring product manufacturing back to the U.S. as a means of renewing the economy and increasing employment. The widespread presumption (and bias) is that manufacturing will continue to look and function in the familiar way that it has for the past hundred years. Under the surface, manufacturing is about to undergo a fundamental change. In the near future, innumerable products will be manufactured on demand at a local service bureau through 3D printing, thereby greatly reducing the need for giant factories and international shipping of finished goods. The process is already sophisticated enough to produce jet engine parts that cannot be made by any other method as well as viable organs that will someday be transplantable into humans.

It is easy to get caught up in the flood of industry information that comes in via email, conference proceedings, newsletters. It is much more difficult to step back, look at that data that seems so important and timely and say, “If everyone has this same data and the industry is still in trouble, maybe this isn’t the right data.”
What do I believe that is actually false? I believe that I know what manufacturing is: large buildings full of people and robots making millions of identical items on assembly lines.

What can I discern that others do not see? The traditional definition and methods of manufacturing may already be behind us.

What is my brain doing to blindside me now? Telling me that 3D printing is a crazy science fiction idea that will never achieve practical, widespread adoption and therefore is not worthy of my attention.

Applying Fisher’s three questions to our own firmly held beliefs about our business, about what we need to know and how we go about our work can be helpful in surfacing and dealing with our own biases, preconceptions and intellectual limitations. No matter how much intelligence we gather, if we allow these biases free rein, that information is of only limited usefulness.

As Gray Plosser suggests, a stream of intelligence must be wide and varied enough to provoke creativity in order to be useful. Yet we must also understand our own biases, learning and gaps in learning well enough to recognize what we do not know and what we disregard due to habit or discomfort. Creativity and innovation tend to happen where a myriad of ideas are in juxtaposition, but the mind must be receptive and ready for input to make the connections between them and find the opportunities.

So if we must ask of ourselves the setting aside of biases, habit and comfort in order to see clearly what we must seek, what must we then ask of the world?

As science historian James Burke has illustrated at length in his 30-episode documentary “Connections,” filmed and broadcast over the course of 20 years between 1978 and 1997, nothing happens in isolation — especially innovation. Burke’s work illustrates that while the drive of modern education and society has been toward specialization and single focus, the relationships between science, technology and social change have become increasingly interconnected and interdependent — more enmeshed and less compartmentalized. As Burke himself puts it, “People tend to become experts in highly specialized fields, learning more and more about less and less. Unfortunately, so much specialization falsely creates the illusion that knowledge and discovery exist in a vacuum, in context only with their own disciplines, when in reality they
are born from interdisciplinary connections. Without an ability to see these connections, history and science won’t be learnable in a truly meaningful way and innovation will be stifled.”

More simply, insights frequently come from the mixing of disparate elements, and specialists rarely look beyond their narrow focus for new items to mix. This tendency makes the seeking out of experts less useful than it would first appear. When inclined to pick up a book, first be clear about what you already know; otherwise you may end up embracing someone else’s perspective as your own.

**THE FIRST, BEST RESOURCE: YOURSELF**

With a world of experts at our fingertips via the conduit of the Internet, our current first response to many questions is to Google it and see who has something to say on the topic. This is astonishing, considering the years of education, professional and life experience, business leadership and networking building that design and construction firm leaders have accrued.

Do I really believe that a website selected for me by the sales-driven algorithms of Google (or any other search engine) knows more about my firm, my marketplace and clients, and the challenges facing us than I do? In looking for outside intelligence, we may discount our own experience and intuition.

Our first resource in seeking intelligence is ourselves. In “The Lord of the Rings,” the wizard Gandalf desairs at one moment as no word has come to him of Frodo and Sam’s progress. Aragorn, the future king, turns to him and wisely asks, “What does your heart tell you?” After a moment of quiet inward reflection, Gandalf realizes that he knows, in a deep and profound way, that the two distant adventurers striving to save the world are indeed alive. We often seek anxiously for word from outside, even when we are often already in possession of the knowledge we seek.

Setting aside your biases and habits of thinking, what do you already know about your situation or problem? If, as the ACE report tells us, design and construction firms are dangerously over-consolidating the industry, are losing contracts to off-shore firms, are inadequately supported by governments both national and local — what do you personally know about what drives these changes? What is already contained in your knowledge that can help you define the problem for your firm?
Even while you examine your past experiences and store of knowledge, hold in mind that the current situation or need is not identical to one you’ve encountered in the past. In spite of surface similarities, every challenge is unique and requires its own solution.

Design and construction goes through regular busy and slow cycles that are tied to economic surges and retreats. The Great Recession has been like no cycle in the past, and coming out of it is like no recovery we have seen before. We may be tempted to fall back on strategies that served the firm well historically, but this time they may not work.

THE SECOND BEST RESOURCE: EVERYONE YOU KNOW

You have a professional network built up over the span of your career, inside the firm and in your entire business ecosystem of clients, competitors, subconsultants and trusted advisors. Your firm has a staff of talented individuals with a wide range of interests and pursuits. We often forget that our network has great sources of information, so ask it first to help you identify what questions you will need to ask.

What do they know about the issue confronting your firm? Have you talked to the people who are directly in touch with the problem? If one of your clients has hired a firm from overseas for its latest project, have you visited it to request that it candidly tells you why it made that choice? No number of outside sources can offer you data as direct and relevant to your firm’s situation as your own clients can.

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The same is true of your firm’s talent. Since his death in August, Steve Jobs’ genius has been analyzed from 10 dozen angles; yet one thing stands out: his direct, hands-on communication with every team (including marketing) about every project. He roamed the firm poking into corners, looking at what the entry-level engineers in the back of the basement were up to; he asked questions of everyone, not just his executive team. From these random conversations, Jobs frequently identified pointed questions, e.g., Why is a computer in multiple pieces instead of one unit? From these kinds of questions, many of Apple’s industry-changing products emerged. As James Burke might say of him, he was great at recognizing connections no one else could see and leveraging them into new offerings. He did it by asking the right questions.
Another benefit of engaging those who will ultimately implement your search to identify what questions to ask is that when you reach the point of conducting research, gathering intelligence and ultimately taking action, their early engagement makes it more likely that their participation will be wholehearted and yield strong results.

Gray Plosser also recommends engaging in community service as a way of expanding viewpoints and connecting with a broader base of people. For The KPS Group, it is not only a value the firm holds, but also its community service is of value to the firm.

“We cross paths with and get to understand other businesses and how they work, and we build relationships that not only provide us with information and data, but that also become sources of business. Architects and engineers need to get out of their professional boxes and create new connections within the community. When design professionals have their noses too deeply in their daily routine, they can’t listen to wider sources, and this affects whether they have the truth or not, whether they are responding to clients in a way that is actually useful to the clients.

“We can take this discussion right back to Arie de Geus and his book “The Living Company.” He studied firms more than 100 years old to see what characteristics sustained them over the long term. It has become a cliché, but “think globally, act locally” is a common thread in these firms. They constantly reinvent themselves and take a perspective that goes beyond the narrow limits of what they provide today. They look at what is going on in the greater world and with their clients, and adjust their business accordingly.”

**A SYSTEMS VIEW OF THE WORLD**

Returning to the example of Bill Ford Jr., an extremely wide array of information helped form his concept of and passion for solving the world’s gridlock problems before they become too great. The characterizing feature of all the information he is working with, however, is that it all relates to the same system: transportation. You might expect that the chairman of an auto manufacturing company would have long-term projections about the worldwide demand for vehicles. But Ford clearly sees transportation as something much larger, an entire ecosystem that entails human population, the movement of goods and services, infrastructure, fuels, technological advances in wireless communication, computer networking and artificial intelligence. This ecosystem is subject to breakdowns, encompassing another set of information: traffic patterns, accessibility, system health and functionality. At a fine-grained level, one can drill down into this system...
and look at the root causes of gridlock: broken (or nonexistent) traffic signals, inadequate rules of the road, infrastructure flaws — either physical or in the design, natural events like floods or sinkholes, or even a herd of livestock competing for the right of way.

If the problems that stop traffic in its tracks for days at a time are not solved, people and businesses will adapt — which means finding other way to move about, ship goods and deliver services.

A system of this complexity, spread over the world’s landmasses, is a daunting challenge to take on. But Ford is willing to be an active player in this very large field. He knows that if Ford Motor Company does not take action, it will have to watch as increasingly negative impacts limit the market for cars and trucks, not only for Ford, but also for all auto manufacturers.

Functioning as an adaptive organization is his firm’s best option for long-term survival. He has figured out what questions to ask to learn where he can take action to shift the future in a preferred direction.

The architecture and engineering professions can easily identify a certain set of “enemies” in lack of funding, over-consolidation of the industry, a lack of attention from government agencies and the public.

For firms to survive, leaders must take the kind of steps that Bill Ford Jr. has initiated to assess the business ecosystem that your firm participates in, then see how they can become active leaders and participants in taking action to create a preferred future.

- What system is your firm a part of?
- At what points will an intervention lead to an optimized future?
- What do you and your firm need to know in order to make those interventions?
- What questions will give you the best information and point to insights that lead to action?

Waiting too long to act in this fast-moving world can have devastating results. The immensely powerful music industry was completely overturned within a few short years of its $15 billion peak in 2001 by a series of technological shifts it initially disregarded, an unshakeable (and now seemingly naïve) belief in
its central role in the creation and distribution of music, and a refusal to adapt to changing conditions. Of the “Big 6” record companies, only three remain and in greatly reduced circumstances, one of which, EMI, is owned by Citigroup, which is currently breaking apart the various asset packages and selling them off piecemeal.

As Margaret Wheatley pointed out earlier in this article, adaptive organizations can only continue and thrive if they have ongoing access to new information, if they constantly examine this information, and if they use that data to determine what choices are available and what resources must be brought to bear to achieve a successful response.

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1 Bukaty, R. This could be the key to opening gridlock. http://www.wheels.ca/columns/article/805534.
The 2012 presidential election is shaping up to be a close, contentious race that more resembles the elections of 2000 or 2004 than the election of 2008. An election in which the results of a single state counted in the wee hours of the morning of Wednesday, November 7, 2012, could decide the White House.

No matter who secures the necessary 270 electoral votes to take the White House, control of the Senate is equally up for grabs, with the Democratic Party currently holding a narrow lead with 51 seats. There are 33 seats up for election this year; 23 of these are currently Democratic, and the other 10 are Republican. Realclearpolitics.com has the Senate at 46 Democrats, 46 Republicans and eight toss-ups. Larry Sabato, director of the University of Virginia’s Center for Politics, has the Senate at 47 Democrats, 46 Republicans and seven toss-ups. Regardless of which party achieves the simple majority, neither is anywhere near the 60 seats necessary to control the Senate by blocking a filibuster.

By contrast, the House of Representatives is squarely in Republican control and expected to remain that way. All 435 seats are up for re-election, with the Republicans currently holding 241 seats to the Democrats 194. The real question that the 2012 election will answer regarding the House is whether the Republicans add to their lead or Democrats chip away at that majority.
Based on the numbers, we believe there are three likely scenarios for how the election unfolds at a high level: Republican Mandate, Status Quo and Gridlock. The races are too close at present to assign valid probabilities to the scenarios.

**REPUBLICAN MANDATE**

President Obama entered the Oval Office after the 2008 election with the Democratic Party in control of both houses of Congress. During that year’s election, Democrats expanded their lead in the House and took control of the Senate, nearly securing the 60 seats necessary to block a filibuster.

In just two short years, the pendulum swung hard in the opposite direction. The Republican Party took control of the House of Representatives during the 2010 midterm elections and took six Senate seats from Democrats. Assuming the pendulum continues to swing the same direction this election year, Republicans could end up in control of both houses of Congress and the White House.

The Republican Mandate scenario sees Mitt Romney winning the White House and ushering in Republican control of both houses of Congress (see Exhibit 1). This scenario would put Romney in the same situation that President Obama faced in his first two years with a friendly Congress.

**STATUS QUO**

The 112th Congress is one characterized by gridlock and frustration, as evidenced by its near failure to pass a federal budget in 2011. Election year politics are partly to blame, as Republicans do not want to give Obama political victories to claim in advance of the November election. Beyond the election, however, partisanship is rising. Analysis by the Pew Research Center of its values study found that the divide between political parties is growing, both in their views of key issues and in what those key issues are.

Under this scenario, the status quo is maintained. After ushering in Republican control of the House during the 2010 midterm election, the American electorate reverses course under this scenario by re-electing Barack Obama, maintaining the Democratic Party’s narrow margin in the Senate, and cutting into the
Republican Party’s lead in the House (see Exhibit 2).

GRIDLOCK OR BIPARTISAN RENAISSANCE

Under this scenario, Republicans take control of both houses of Congress, but President Obama narrowly edges out Mitt Romney to remain in the White House (see Exhibit 3). The unanswered question under this scenario is whether high levels of partisanship will persist after the election. If so, that diminishes chances for political progress addressing the tremendous political and economic issues facing the nation, such as lingering high unemployment, growing public debt and tremendous uncertainty. Alternatively, if Obama were elected to a second term facing an opposing Congress, much like President Clinton, bipartisanship would provide the only productive path forward.

As the election season consumes a greater share of news coverage and public attention, it is easy to focus on the issues of the election and lose sight of the bigger picture. In light of the previously outlined election scenarios, three of FMI’s consultants (Wallace Marshall, Rick Tison and Phil Warner) answer questions on what is troubling the U.S. economy and our path forward. Since the left-right political spectrum is a common way of classifying political parties, each consultant has a particular focus, with Wallace representing the conservative right; Phil — the liberal left; and Rick — the middle of the road.

FMI Quarterly: The first question goes to all three of you. We hear a wide range of opinions on the question of just how serious the economic problems facing the U.S. are, ranging from “Danger of imminent collapse” to “We’ve hit the bottom, and now it’s ‘getting better all the time,’” as the song goes. Where do each of you fall along that spectrum?

Warner: “We’ve hit the bottom, and now it’s ‘getting better all the time,’” according to the scale in the question. However, I would amend the time scale to say it is getting better a little bit at a time. Another refrain in that old Beatles’ song is “It can’t get no worse.” The U.S. economy is improving in many areas, but it could get worse, and it was not far from a full-scale depression as millions of jobs evaporated, banks stopped lending, and everyone stopped spending. While the stimulus package did not live up to its initial billing, it did help to hold up the
where do we go from here? points and counterpoints

Unfortunately, private capital has not followed suit. It is still a fragile recovery, but a recovery nonetheless.

It is difficult to accept slow, uneven growth, but that is what we have now, and, as painful as it is for many, things are getting better for most. More jobs, but not enough, are being created. Investors are spending again, albeit carefully, for capital improvements including construction, and some fundamentals like U.S. manufacturing and energy development are showing signs of new life and investment. Manufacturing and even residential markets are showing tangible signs of recovery as noted in the “Beige Book” released by the U.S. Federal Reserve on June 6, 2012:

Manufacturing continued to expand in most districts. Consumer spending was unchanged or up modestly. New vehicle sales remained strong and inventories of some popular models were tight. Sales of used automobiles held steady. Travel and tourism expanded, boosted by both the business and leisure segments.

Conditions in residential and commercial real estate improved. Construction picked up in many areas of the country. Lenders in most Districts noted an improvement in loan demand and credit conditions.

Perhaps more importantly, in light of the latest bump up in unemployment to 8.2% (May), the federal government reported that “Wage pressures overall were modest. Hiring was steady or increased slightly, and contacts in a number of Districts reported difficulties in finding qualified workers, particularly those with specialized skills. Price inflation remained modest across districts, and overall cost pressures eased as the price of energy inputs declined. Economic outlooks remain positive, but contacts were slightly more guarded in their optimism.” This guarded optimism is also reflected in FMI’s Nonresidential Construction Index (NRCI) for Q2 2012 as construction industry executives continued to raise their outlook — 59.8 for the second quarter on a scale of 100 — for a continued nine quarters in positive range. However, those positive readings are far from bullish, and they do not paint a steady upward curve. NRCI results reflect that we have a long way to go to have a strong construction market again. Panelists consistently express their concerns about indecision and uncertainty on the part of governments and for the rising U.S. budget deficits.

The crash in 2008 upset the global economy suddenly, but it will take time to unravel those events and losses by deleveraging debt and making sound investments.
Things will not return to the normal of the few years before the Great Recession, in part because that was not “normal” and because the world has changed. Most of the jobs lost in the Great Recession are not just sitting there waiting to be refilled. The bulk of the long-term unemployed need new skills and training to return to gainful employment. They may also need to relocate at a time when selling one’s home is a losing proposition. It is really a combination of a change in behaviors as well as a change in expectations. Slow growth, if done with purpose, can be the most sustainable type of growth. Big changes right now either to overstimulate growth with a second trillion dollar stimulus plan or to cut spending drastically — consider including cutting tax cuts as spending by another name — would be catastrophic and give us the unwanted opportunity to see what depression really means. The focus needs to be on income to reduce debt, and that means getting more people back to work and increasing taxes. The private sector has been holding more than $1 trillion in cash and will need to start investing again, or the economy will continue to falter, no matter what the government does.

**Tison:** I believe we are somewhere in the middle of the scale, but looking in the wrong direction. Some things are certainly getting better, but there is still a good deal of uncertainty and a greater deal of bad news.

There are some positive developments in the economic news. The economy is still growing, although slower than preferred. On the positive side, consumer spending, which accounts for roughly 70% of U.S. GDP, has increased every quarter from Q3 2009 to Q1 2012, with the exception of Q3 2011. Unfortunately, job growth, which grew impressively from December 2011 to February 2012, has cooled. The labor force participation rate is down to levels not seen since the early 1980s.

Positively, the private sector is successfully deleveraging, albeit largely through default. According to a McKinsey Global Institute report on Debt and Deleveraging, all categories of U.S. private-sector debt have fallen as a percentage of GDP. The other side of this deleveraging is the increase in government debt as a percentage of GDP. While government indebtedness typically grows in response to a recession, the U.S. government began the recession with a high level of debt relative to GDP.

In addition to these positive and negative data points, there is still a great deal of uncertainty. Recent reports have called into question the strength of China’s economy. The country’s industrial production, home building and electricity production all slowed sharply up to April. As the second-largest economy in the
world and the largest purchaser of U.S. public debt, a slowdown in China is cause for concern. Even though many economists expect a soft landing for China’s slower growth, it still means less spending and investing can be expected from China in the next few years.

The European debt crisis continues to scare financial markets. Austerity measures have pushed the Euro area back into recession. Rejection of austerity and the related threat to the monetary union altogether create further uncertainty of what the future holds for the EU. Much depends on how long Germany will continue its support of the Euro, as the German people grow weary of being the region’s piggy bank.

Marshall: I do not see how anyone could think the problems are not extremely serious. Our government is leveraged to the hilt with no possibility of ever repaying most of its debt; municipal defaults are on the rise; and our large banks have been downgraded and are facing further downgrades in the months ahead, to say nothing of the rapidly deteriorating situation in Europe.

The short-term effect of the European crisis has been to drive investments into U.S. treasuries and lower our borrowing costs. As the European economy unravels — and there is little doubt in my mind that it will — the collateral damage to the world economy, including our own, will outweigh those short-term benefits.

I think there is a real danger of economic collapse in the U.S. if we do not radically change course. While I would not characterize the danger as “imminent,” the collapse could easily take place within the next decade.

One thing I am certain of is that if the U.S. economy were to collapse, the analysis in the aftermath would sound just like it did after the housing bust. We would look at the data and say, “How could we not have seen this coming?”

Our saving grace is the fact that the U.S. dollar is the world’s reserve currency, and there are currently no viable alternatives. If an alternative currency does emerge — and there are numerous such attempts under way — we are going to be in real trouble. When one considers the underlying weakness of the dollar, the fact that it remains the best option is itself a disturbing commentary on the world economy.

There is an instructive scene for us in Hemingway’s 1926 novel, “The Sun Also Rises,” where Mike asks Bill how he went bankrupt. “Two ways,” Mike replies. “Gradually and then suddenly.” When Bill asks him to elaborate, Mike explains, “I had a lot of friends. False friends. And then I had creditors too. Probably had more creditors than anybody in England.”

That is a striking parallel to our current situation. As Niall Ferguson, a professor of economic history at Harvard University, has been tirelessly pointing
out in recent years, the lesson of history is that civilizations decline gradually but collapse rapidly. And as I pointed out, the U.S. has an abundance of creditors that continue to feed our debt addiction.

**FMI Quarterly:** We think everybody would agree that there are numerous factors lying behind our current economic situation, but if you had to boil it down to two to three root causes, what would those be?

**Warner:** The first was a bubble mentality, leading to unbridled risk in the form of credit default swaps, hedge funds, derivatives and bundled securities largely unregulated and vastly misunderstood, especially in relation to the effect of the rapidly deflating residential housing bubble. These problems were multiplied by complacency or complicity on the part of regulators and ratings agencies.

The second was lack of transparency in financial markets and investor due diligence in the midst of rampant greed.

The third cause was spending on multiple war fronts over the last decade. The cost of the wars in Iraq and Afghanistan is expected to reach $2.5 to $4 trillion dollars, plus post-war commitments to troops and others. At the same time, Bush-era tax cuts raised spending domestically, effectively increasing national debt by $2.2 trillion since enacted in 2000 and reinstated in 2011. Tax cuts can be considered as spending by another name since they reduce revenue and increase debt. The idea that the tax cuts will result in higher investments by the wealthy, thus creating jobs and more revenue, is arguable. Rather, the tax cuts have apparently done more to create a greater divide between the wealthy and all others. The trickle-down approach is not working, as large investors and wealthy individuals hold on to their money or invest it in offshore tax havens.

**Tison:** First, I believe the tremendous amount of uncertainty is a significant roadblock to growth. Uncertainty takes the form of new government regulations, public debt crises in the U.S. and Europe, and signs of slowing growth in emerging market economies, such as China, India and Brazil. The effect of this uncertainty is apparent in the lack of business investment. Until business leaders feel greater certainty on where things are headed, they are unlikely to put capital to work through investments in fixed assets or human resources.

Second, the challenged employment situation is another factor behind our current economic situation. Beyond limiting private consumption, continued
unemployment creates demand for tax dollars while simultaneously limiting the base of taxpayers to replenish the coffers.

Third, the staggering disparity between government revenue and outlays poses a significant challenge to our already fragile recovery. The U.S. entered the recession with an already high level of government debt to GDP as result of the near decade of war in Iraq and Afghanistan. Recessionary deficit spending intensified the issue. Now we are stuck in a Goldilocks situation: We must cut spending, increase government revenue and reform long-term entitlement programs, but we must not do these things too fast or too slow. Instead, they must be done “just right” so as not to disrupt our slow-growing economy.

Marshall: I think the most obvious root cause is the West’s century-long experiment with big, centralized government that has slowly but relentlessly been working out its consequences — first in Eastern Europe, currently in Western Europe, and following close behind, the United States.

Because they lack the stimulus of competition, governmental bodies are inherently inefficient. When government is not only large but also centralized, the problem is compounded by the fact that bureaucrats are removed at a distance from the problems they are trying to solve. Every nation has a certain amount of capital. The more that capital is concentrated in government, the less productive a nation will be, and the less new capital it will generate. In most European countries today, total government spending accounts for half of GDP. In the U.S., it is 40 percent. Add the hidden cost of government regulation to that, and it should not be a mystery how we have ended up where we are.

Why did the West go down this road to begin with? Answering that question leads me to the second root cause. Alan Charles Kors once characterized socialism as “the rash and ignorant slaughter of the goose that lays the golden eggs.” Putting aside the question of how the word “socialism” should be defined, I think that nicely sums up the history of what I would call the socialist impulse.

Somewhere along the way, we stopped looking around the world and asking what it was that made the West different, what generated its unprecedented prosperity. Once several generations have stopped asking that question, the natural course is to take the prosperity for granted — as a given of human existence. Instead of asking what brought about our prosperity, you start asking why the world is not perfect, and you end up blaming its imperfection on the very system that generated its prosperity. That is admittedly painting with a broad brush, but I do think it captures the basic psychological impulse that led the West to its experiment with centralized economies.
**FMI Quarterly:** What will it take for the economy to return to some kind of normal growth pattern and restore confidence to businesses and consumers?

**Warner:** It will take more stability and less market and political uncertainty. Government and business need to employ better use of resources and more innovation. For government in particular, that will mean defining or redefining what is meant by “normal.” There are what economists refer to as natural levels of unemployment and that should figure in the definition of “normal.” The “new normal” unemployment rate may be between 5.6% and 6.0%, where, historically it has been around 5%. The natural level of growth is more arguable. In order to return to what is considered to be full employment within a few years, GDP will need to be more than 3% for some time. Alternatively, that is not likely sustainable as the economy will start to overheat, causing inflation and shortages if growth rises too fast. It is a delicate balance and one that no one can completely control. That is what we will need to aspire to if we are going to get back to a more “normal” economy. Businesses are learning this now, but governments are still struggling with these ideas.

Reducing the troops on foreign soil and our military commitments and costs will help reduce debt considerably. Continuing to trim fat, inefficiencies and illegal payments in all programs, entitlement included, will be a positive step to deficit reduction. Putting people back to work with better investments in training, R&D and generating new ideas for energy and infrastructure will greatly improve tax rolls and better prepare our country to return to global leadership in innovation and technology. While these things are generally done best by the public sector and private business, there can be less pressure to innovate when only a few mega-firms control any given sector. There needs to be government involvement, encouragement and even seed money, despite the Solyandra failure. The electronics and computer era is becoming a mature industry, although there is no doubt many advancements remain to be made.

What we need to do is find the next “big thing.” That might be several things, including advancements in infrastructure and energy. We will continue to need to advance the idea of sustainability and green technologies. This is not only an area where America can take the lead, but also is good for our quality of life. In short, we need to make good investments for the long-term good, not quick fixes and bailouts with public money of failing banks making bad bets.

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— PHIL WARNER
Tison: Of what we can directly control, I believe the “catastrophic” resolution to which you are referring starts on the public side. Two things are required to avert “catastrophic” resolution on that front.

First, short-term changes must be made that address the symptoms of the underlying problems without derailing the fragile economy. Sudden and messy cuts in spending or increases in taxes are a recipe for derailment, both of which are scheduled to occur with the sequestration and expiration of the Bush tax cuts. While spending cuts and higher taxes both play an important role in our return to fiscal sanity, they must occur in an orchestrated way.

Second, if that balancing act is not challenging enough, even trickier is that the problems we face require long-term policy solutions that are both challenging and painful, including the long-run solvency of Social Security and Medicare. Long-term vision is scarce in Washington, and tough, painful decisions do not get politicians re-elected.

On unemployment, those out of work may not have the skills required to fill jobs currently available. Developing the right skill sets will take time as the currently unemployed must enroll in additional education to close the skills gap. In the event that current institutions are not in place to address those gaps, they must be created, which further lengthens the timeline and adds to the investment required to bridge the gap.

Similarly, solving the fiscal crisis has no quick fixes. Social Security and Medicare are in need of long-term reform. The trust funds supporting these entitlement programs will go bankrupt as they are currently structured. When that happens, benefits, which will necessarily come directly from payroll taxes, are likely to be drastically reduced.

Marshall: Just look at the math. The federal government’s budget for fiscal year 2012 is anticipated to come in at $3.8 trillion, with revenues of $2.5 trillion and a resulting deficit of $1.3 trillion.

If you look at the federal budget, you will see that mandatory spending is $2.3 trillion, up from $2.1 trillion in 2011. Interest payments are another $225 billion. Those two categories alone consume every dollar of the government’s 2012 tax receipts.

The remainder of the federal budget is $1.3 trillion in discretionary spending, which is what it takes to run the rest of the federal government, including our military operations abroad and overseas. Every dollar of that spending is borrowed. In order to balance the budget, you would have to shut down our entire military and every government agency that is not part of those mandatory programs.

The course we are on is entirely unsustainable, and as anyone who has ever run a business knows, when you are deep in the hole and facing serious problems,
the organization has to undergo surgery. Putting a Band-Aid on the problem will not suffice.

It is no different in the public sphere, except for the fact that our creditors have not cut us off yet. But given a chance with an alternative safe haven, they surely will. And like Greece and Spain and Italy, our borrowing costs will skyrocket.

So the change will have to be radical: a dramatic decrease in the size of the federal government, especially in mandatory programs; a huge scaling back of federal regulatory agencies; and significant reductions in military spending. That may sound easy on paper, but it would be terribly painful. There is no getting around the fact that we are going to have some pain. We either have to take a bitter dose of medicine now or a considerably more bitter dose later.

— WALLACE MARSHALL

FMI Quarterly: How much of an impact will the results of the November election have on the likelihood of your respective prescriptions for recovery being implemented?

Warner: If President Obama returns to office and there is enough of a shakeup in Congress, that is, if the American people manage to send some sort of message that a stalemate or the inability to compromise is not acceptable, then there is a chance we can continue on a path of sustainable or wise growth. If President Obama gets a second term with a similar Congress to that we now have, then we can only hope the economy will slowly heal itself as it has been doing.

If Romney wins and is beholden to the Tea Party and radical conservative supporters, then we will still limp along with a slowly improving economy until the new administration is able to repeal the laws enacted during President Obama’s term. Then the new administration will need to repay those who helped it into office by reducing taxes, industry and regulations and the size of government. If that is the case next year, then it is anyone’s guess as to the direction of the economy; but we have some certainty who the losers will be. More tax cuts for the wealthy, repeal of “Obamacare,” fewer environmental regulations, privatization of public services, government layoffs, budget cuts for all but the military, deregulation of Wall Street and financial services firms are all actions that ring like church bells to the radical Republican ear. However, the result will be higher unemployment, fewer public construction projects, lower wages for American workers, higher health care costs or no health care insurance at all, and higher risk from environmental disasters.
affecting drinking water and product safety. In short, the rich will get richer faster; the middle class will get poorer.

The bottom line, no matter who wins in the upcoming elections, is the president and Congress must be less like politicians and more like leaders and wise lawmakers.

**Tison:** The causes behind our current economic situation are greater than a single election and will most likely take longer to solve than a single election cycle. The challenges we face are systemic in nature and require long-term vision to address. The politics of the debt-ceiling debate over the summer of 2011 will not suffice. We are past the point of short-term fixes that assume there is plenty of time to resolve our issues.

That said, the outcome of the election is instrumental in shaping the discussion in Washington over the next four years. The contents of that discussion could either put us on a path to facing our challenges or leave us on our existing path of perpetual deferment.

**Marshall:** If President Obama is re-elected, my prescription for recovery has no chance of being implemented, because it is diametrically opposed to his political vision. Even if the Republicans gain control of both houses of Congress, Obama is not likely to compromise. He has a definite ideology and is firmly committed to it.

As long as the House remains Republican, as now appears to be the case, we would not see further centralization of the U.S. economy under a second Obama term. But what we would see is a continued expansion of federal regulatory agencies, which are already a gigantic burden on American corporations.

A victory by Romney would reverse this regulatory trend, and if the Republicans not only hold the House but also gain control of the Senate, we might start to see some real change in the direction I would propose. That would do a lot to generate business confidence, but even then, I doubt whether there would be enough political will to alter our financial course radically.

Even if Romney and Congress were bold enough to enact sweeping reforms, the Republicans would probably be voted out in the midterm elections. The only way to avoid that would be to have a charismatic president who could engage the American people on an emotional

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The challenges we face are systemic in nature and require long-term vision to address.

— RICK TISON
level, repeatedly and tirelessly lay out the math in front of them and remind them of the dilemma we face and the implications of kicking the can down the road. But I do not see Romney as that kind of leader.

**FMI Quarterly:** Phil, your prescription for recovery does not sound too radical. Does that mean you are fairly optimistic on the likelihood of its being implemented?

**Warner:** It is radical in several respects. I think we need to continue roughly on the course we are on for several more years. That is, look for savings in unneeded or ineffective spending, be more efficient and effective in government business practices and program delivery, and be diligent in tracking down and eliminating waste and misuse or illegal use of funds, such as Medicare distributions. These steps may not sound radical, but if we did all of this and more, it would be a rare thing in government and likely step on many political toes, as the “friends and family” plan of government employment and operation would be affected as well as pet projects and favoritism to lobbyists. In the end, we would be able to do more with less just as businesses must do in order to manage their organizations well, make money and provide jobs for their communities.

That is radical.

**FMI Quarterly:** The other thing that strikes me about your prescription is that it is rather general in nature. Is that really enough to address the hard reality of the numbers Rick and Wallace are talking about? How do you work out the math?

**Warner:** There is no silver bullet or magic economic wand to improve the economy and the welfare of U.S. citizens. The struggle must be made on all fronts. If we use a highly targeted approach for just one or two areas, like cut taxes and drastically reduce spending, that is easier for people to understand but also will create fewer winners than losers and do more harm than good. In business we like to say, work smarter, not harder. That too is simplistic, but it is at the core of what the country needs to do — work smarter. That means take a hard look at entitlement programs, military spending, taxes and infrastructure programs to see how we can deliver more for less total cost. That is how to turn spending into good investment. This will not happen without a collaborative national and congressional atmosphere. If our most likely election scenario is the return of President Obama along with a Republican Senate and House, we will need collaboration to make it work. Once we start to bring outlays down and revenues up, the deficit will return to levels that are more manageable. This is slowly beginning to happen now in spite of lame-duck legislators.

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In business we like to say, work smarter, not harder. That too is simplistic, but it is at the core of what the country needs to do — work smarter.

— PHIL WARNER
How will this happen? A recent report from the PEW Research Center for The People & The Press described a growing political and ideological rift in the country:

[T]he average partisan gap has nearly doubled over this 25-year period — from 10% in 1987 to 18% in the new study. Nearly all of the increases have occurred during the presidencies of George W. Bush and Barack Obama. During this period, both parties’ bases have often been critical of their parties for not standing up for their traditional positions. Currently, 71% of Republicans and 58% of Democrats say their parties have not done a good job in this regard.

Public assessments of the federal government’s role and performance have fluctuated over the past 25 years, but are currently at a low point on most measures.

Not only do they describe a growing partisanship in the country, but also that:

Roughly eight in 10 (81%) say elected officials in Washington lose touch with the people pretty quickly, and 62% say, “most elected officials don’t care what people like me think.” Just 41% of Americans now say the government is really run for the benefit of all the people. This is down from 49% three years ago and matches previous lows in the early 1990s.

The results of most of PEW Research’s new report do not bode well for a collaborative environment in the next Congress, but there are a few pieces of common ground among the people responding to the survey. One major one is a continuing belief in America to solve its problems:

More common are the consistent majorities who believe that the strength of the country is mostly based on the success of American business, who believe that as Americans we can always find a way to solve our problems, and who believe that hard work can lead to success for anyone.

Many people like to think of the U.S. as exceptional. But what makes the country exceptional these days? Does it mean one group of people is exceptional while others are not? I think America is exceptional when we are able to work together toward common goals despite major differences of opinion. We will be exceptional in this age if we have smart people in high political positions that have the benefit of all of the country’s citizens in mind as they make decisions about solutions to important issues. We will be less and less exceptional as special...
interests control more and more of our politics and all decisions are made by the few not the many. We are exceptional as a nation when we serve by example.

America should be a place of isms working together, not a collection of red and blue states as we are reminded in a political year and every year these days. We often note the benefits of collaboration for construction projects — an idea that seems obvious but is often hard to do. With practice over time, we expect it to be a trend that benefits the industry tremendously. The question is, Can that same idea benefit the country? If not, we will continue to be more and more divided until we are conquered by our own ideologies.

**FMI Quarterly:** Rick and Wallace, the prescriptions you gave certainly sound more difficult, some would even say drastic — especially in your case, Wallace. How does that affect your assessment of the likelihood of a “noncatastrophic” resolution being achieved?

**Tison:** Averting such a resolution is plausible, albeit challenging. I believe that politicians are aware of the dangers. The Simpson-Bowles plan outlined the dire nature of the situation and offered a bipartisan path forward to reduce the federal deficit through a combination of spending cuts and tax increases two years ago. The problem to date is not one of knowledge, but one of action, or the lack thereof.

There is a scenario, however, where action becomes the most likely course. The forced hand of sequestration and the expiration of the Bush tax cuts at the end of the calendar year will serve as a catalyst for the right kind of discussion. While these events would bring revenues and outlays closer to parity, the abrupt nature by which we achieve that equilibrium is dangerous for an already fragile economy. Furthermore, the unfolding of events in Europe may serve as a harbinger of things to come if we continue to delay action.

While politicians understandably care deeply about re-election, at the end of the day, they similarly care about their legacies. No Congress or president wants to be remembered as the one at the helm when such a result occurred, when reasonable, albeit difficult, solutions were on the table.

**Marshall:** I think the likelihood of a non-catastrophic resolution is low. In a democracy, radical change in government requires a radical change in the way the average citizen thinks, and that kind of change does not appear to be on the horizon, which is particularly depressing, given the most obvious handwriting on the wall both in Western Europe and at home in states like California and Illinois.

A large segment of our population is so far from making the radical changes that are needed that it wants a still larger role for government—basically to head in the direction of the European model; and a significant segment of the conservative wing believes that, for the time being, we should make minor changes
but essentially maintain the status quo. Right now, we are the proverbial frog in a pan of water that is slowly coming to a boil. Psychologists refer to this as the "normalcy bias" — our natural tendency to underestimate the possibility of dramatic change, even when signs of danger become very obvious.

**FMI Quarterly:** Rick and Wallace, if we cannot avoid a non-catastrophic resolution, what exactly does the endgame look like? What would its aftermath be, and how would the U.S. get back on track?

**Tison:** If we do not change course, our deficits will continue to consume more and more tax dollars. As the cost of government grows, it will crowd out opportunities for private investment and challenge economic growth. Furthermore, the rising cost of government will distort the public sector’s ability to provide essential services in the pursuit of honoring Social Security, Medicare and debt commitments.

The ability to raise funds through additional public debt will also be challenged. Today, the U.S. enjoys low borrowing costs as central banks across the globe use U.S. treasuries to control their own exchange rates. Continued U.S. profligacy may incent those borrowers to find a better alternative, as China has advocated doing. If they do, that would diminish demand for U.S. treasuries, which would lead to higher interest rates, as the U.S. would need to do more to make its debt more attractive to creditors.

The costs of inaction are severe. In the event of "catastrophic resolution," our economy would struggle mightily and the likelihood that China surpasses the U.S. as the world’s largest economy sooner rather than later would greatly increase. That said, the U.S. economy is still the world’s largest, and we still enjoy the privileges of being the global reserve currency. Even after such a resolution, our GDP per capita would be one of the largest in the world, and our influential seat at the table of global affairs would not be revoked. Catastrophic resolution, as you described, would indeed be catastrophic, but it would not be the Titanic’s iceberg. The U.S. economy is not unsinkable, but it has proven to be resilient in the past.

**Marshall:** The endgame would probably be a gradual devaluation of the dollar, followed by the emergence of an alternative reserve currency for the world, which would relegate the U.S. to a second-tier nation in terms of its purchasing power, as well as cutting off our line of credit. Alternatively, we could see a broad and rapid debasement of fiat currencies driven by overwhelming pressure on central banks to print their way out of their respective countries’ massive deficits and indebtedness. It is important to remember that fiat currencies are not tied to any objective standard and thus derive their worth entirely from confidence in their issuing governments. Every fiat currency in the history of the world has collapsed. That is a sober reality.
Either way, the result would be a widespread experience of poverty like we have not seen since the Great Depression. Our national character would be severely tested. I think we would be naïve to think that the first several rounds of testing would not expose a lot of rot in the social fabric of our country. One need only look at the Nielsen ratings to understand that.

That said, I still believe that Americans remain, in many respects, the salt of the earth. I do not say that as a matter of patriotism. It really is my objective assessment. I think that after falling flat on our face, we would ultimately pick ourselves up, dust off our ragged clothes and return to what made us great.

The loss of our ability to purchase goods easily from abroad would force us to learn how to make them cheaply at home. The demise of the social welfare net and its replacement by privately administered charity would, as a matter of bare survival, force every able-bodied American to work in some capacity — whether for $8.00 an hour or $8.00 a day. That alone would have a dramatic impact on our national productivity.

It would be a long, hard road back to greatness. However, I think our ingenuity and chastened national character could take us there.

Sharing the deep concerns of these three thinkers in the FMI organization provides you reference points for arriving at your own conclusions as to what needs to be done and by whom. To wait and see what happens is neither wise nor the actions of a leader. These are precarious times, calling for deep thought, conversations and resolute action. We hope this dialogue among Wallace Marshall, Rick Tison and Phil Warner helps you in your personal and corporate choices.

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1 “The Energy Department’s loan-guarantee program, enacted in 2005 with bipartisan support, has backed nearly $38 billion in loans for 40 projects around the country. Solyndra represents just 1.3% of that portfolio — and, as yet, it’s the only loan that has soured. Other solar beneficiaries, such as SunPower and First Solar, are still going strong. Meanwhile, just a small fraction of loan guarantees go toward solar. The program’s biggest bet to date is an $8.33 billion loan guarantee for a nuclear plant down in Georgia. Improper political influence in the process is disturbing, but, at least so far, Solyndra appears an exception, not a rule.” Brad Plumer, Washington Post “Five Myths About the Solyndra Collapse” September 14, 2011.
Remember the war for talent that all but disappeared when the economy crashed a few years ago? Guess what — it’s back, and it is only going to intensify. As the U.S. slowly works its way out of the recession, baby boomers who may have put off retirement will once again start planning to leave the workforce, and there will not be enough Gen Xers to fill the vacancies. This gives members of the Y Generation an opportunity to kick-start their careers. But another issue looms large — how do we attract them to the construction industry, which has often has been fraught with having a poor image?

One of the best ways is through the ACE (architecture, construction, engineering) Mentor Program, which has been around for almost two decades and is stronger than ever. After several years of experimenting with various mentoring models, ACE formed in 1994 when 17 firms banded together into three teams, each organized like a typical design and construction team, and
“adopted” about 90 students from local high schools. Volunteers from each of the firms, serving as mentors, worked directly with the students to introduce them to the broad range of people and projects within the construction industry. To date, more than 50,000 students have participated in the ACE program, and that number continues to grow.

**A BLUEPRINT FOR SUCCESS**

ACE consists of affiliates that serve students within a certain city. Each affiliate has a board of directors, executive director and a number of professions from local design, construction and engineering firms. The companies form teams that are organized similar to project teams, and usually consist of 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 most of the school year.

ACE recruits students from public and private high schools, with special efforts made to reach women and minorities who may not realize 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 communications skills.

**To date, ACE has awarded more than $12 million in scholarships to promising students.**

Charles Thornton, Innovator

Charles H. Thornton, Ph.D., P.E., founding principal of Thornton Tomasetti Group, an international design firm, was the driving force behind getting the ACE program started, and he has worked tirelessly over the years to attract and encourage high school students to enter the A/E/C industry.

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 (PAESMEM). In learning of the award, Thornton said, “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, 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.
meeting deadlines, working as team members, etc. — skills that are necessary in business today.

Students are introduced to the various design professions and the role that each performs in planning, designing and constructing a project. Students also gain firsthand insight into the design industry by touring project offices and visiting active construction sites. Students form into teams that 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.

In the spring of 1995, ACE New York held its first fundraising event to establish a scholarship program for ACE graduates. Scholarships continue to be awarded on an annual basis to ACE graduates who go on to college to study for a career in the design and construction industry. To date, ACE has awarded more than $12 million in scholarships to promising students.

**DOES ACE WORK? SURVEY SAYS ... YES!**

ACE conducted benchmark research in 2010 to quantify ACE’s impact to date on its mission to “engage, excite and enlighten high school students to pursue careers in architecture, construction and engineering.” ACE students who completed the program between 2002 and 2009 were invited to participate in the survey, which garnered 933 (26%) responses out of 3,666 surveys sent.

One of the findings of the survey shows that ACE participants graduate high school at a higher rate (97%) than their non-ACE counterparts (73%), as shown in Exhibit 1.

In addition, 94% of ACE participants enrolled in college in 2009, compared to the national college enrollment rate of 68% (see Exhibit 2). When enrolling in colleges, female ACE participants enter engineering programs at double the national rate of non-ACE counterparts.

The survey also found that 66% of ACE alumni are studying architecture, engineering, construction or the skilled trades, or are already working in one of these fields (see Exhibit 3).

ACE appears to be accomplishing its mission, based on the survey results. For a copy of the survey results, visit ACE’s website at: http://www.acementor.org/wsc_content/pics/user_upload/ACE%20brochure_FINAL.pdf to download a complete report.

**THE BIRTH OF A CHAPTER: TWIN CITIES, MINN.**

In late 2010, Seth Hausman, head of operations, Construction Division,
ACE Mentor Program FAQs

Q: How is ACE organized?
A: The ACE Mentor Program is made up of affiliates. Each affiliate serves high school youth within a certain region or city.

Each affiliate can have a number of teams. A mentoring team typically includes an owner firm, an architectural or design firm, engineering firms representing several specialties, a construction manager, a general contractor, sub-contractors and skilled craft workers. This team is then matched with a team of students. The number of student teams that an area may have is determined by the number of mentor teams in place.

Each team will have a lead firm. The mentors on the lead firm will be responsible for scheduling meetings and coordinating activities.

Q: What is my firm’s commitment?
A: The main commitment a company makes is empowering its staff to give time to the ACE Mentor Program.

Teams meet in an after-school setting during the school year. A total of 15 to 20 two-hour sessions are held at either the school or the offices of the mentors. A firm’s time commitment is approximately 30 to 40 hours each school year. Additional time may be necessary to organize for a mentoring session.

Many firms provide refreshments for the students and supplies that may be needed to complete a related activity.

Q: What happens during the season?
A: Activities that take place during the season may include:

- Registration events
- Mentoring sessions with the students where they are introduced to segments of the industry and complete activities
- College nights
- Field trips
- Special speaker presentations
- Project development — each team must conceptualize, design and create a project
- Final presentations — student from each team gather together to present their projects to each other, parents, teachers and industry leaders
- Scholarships presentation events

Q: What qualities make a good mentor?
A: Mentors are dedicated professionals who are passionate about what they do and want to share that with the next generation of the industry’s workforce. Ideal qualities for a mentor are enthusiasm and the ability to develop a rapport with the students.

Young mentors often can relate to the students more readily, but mentors of all ages have been very successful. In addition, the closer the diversity of the mentors matches that of the students, the easier it will be to form strong relationships.

Q: What are the benefits to my company?
A: Besides feeding the pipeline with the next generation of construction industry workforce, your company will benefit from its involvement with ACE. The program:

- Enhances your company image, within the industry and also the community
- Provides networking opportunities, for both mentors and principals
- Connects your firm to talented and motivated part-time help and to potential future employees
- Enhances young professionals’ presentation and communication skills
- Creates an opportunity to “give back” to your community and to your industry

Source: ACE Mentor Website: http://www.acementor.org/
Zurich Insurance Company, attended ACE’s national board meeting and realized that the Minnesota’s Twin Cities did not have an ACE affiliate. When he returned home to Minneapolis, he contacted Paris Otremba, manager, Human Resources and Professional Development at PCL Construction Services, Inc., and Dylan VanAvery of Mortenson Construction, who were instrumental in planning this new ACE chapter.

Paris, a board member on the Twin Cities affiliate, was instrumental in the formation of the chapter and continues to work diligently with the program to ensure its success. Dylan VanAvery is a quality engineer/engineer with Mortenson Construction and serves as ACE’s Twin Cities affiliate group coordinator. He tirelessly recruits mentors, coordinates the mentors with the students and observes the interaction between them to see how the program can be continuously developed and improved.

FMI interviewed Seth Hausman a couple of times about his involvement with the new ACE affiliate in the Twin Cities, first about the pilot program and later to learn how the first full year went.

**Chisholm:** How did you get involved in the ACE program?

**Hausman:** Actually, it was Hank Harris (FMI’s president) who got me involved. Hank had called Scott Rasor, president of Construction, Zurich, and me and thought Zurich should be involved with ACE for a couple of reasons. We didn’t really know much about ACE at the time, but took Hank’s word for it and jumped right in. I wound up on ACE’s national leadership council, and that was really the beginning of how we were engaged. After having some discussions with Hank and realizing the caliber of the organizations that are involved with ACE, it really became a natural fit for us. Many of our customers participate in ACE, and it’s such a worthwhile organization — how could you not be excited about what it is trying to do?
What fascinates me is how so many significant national competitors come together for such a great cause, and everyone checks all of that other stuff at the door when they come in because it’s so important.

**Chisholm:** How did you get involved in your local (Minneapolis/St. Paul) ACE chapter?

**Hausman:** The local level was really an outcropping of last year’s national board meeting in October. One of the things covered in that meeting was what each of the local chapters were doing, and it hit me as I was sitting in that room that (we) were the biggest region without a chapter — the Twin Cities. Later, I mentioned this to Pamela, Catalina or one of the staff and was told there was talk of forming a chapter in the Twin Cities. I was put in touch with PCL locally, who was working a little bit with Mortenson — it was just about the time they were beginning to talk about it here.

It was at that board meeting that it really clicked in my head that Minneapolis/St. Paul was the biggest city without an ACE program. That really didn’t make sense, particularly knowing how involved this area is in volunteer activity and building the community. It was odd to me that the city didn’t have a program; so I contacted Paris at PCL and also Mortenson — that was in November. We had an initial little meeting with a couple of us, and things started to unfold quickly. We had a kickoff meeting with the construction community — it was the middle of December and a very, very cold, blustery day. Stephanie came from ACE, and it was one of the coldest days of the year. We had about a week and a half to invite people to this general information session, and we probably had one of the best introductory meetings ACE had seen around the country — after making a handful of phone calls to some key people, we filled the room with 50–60 people.

**Chisholm:** That did not give you much time to plan.

**Hausman:** What speaks to the level of commitment in the city is that we knew we were starting small. If you work with the timeframe, with the introductory meeting in December — we picked our board, which was about eight or so of us at that time and had our first board meeting in January. We kicked off our pilot program in April, so we had a very small amount of time. The whole point of the pilot program was that it was going to be a small start — we knew we
were going to handpick our mentors from the companies represented by our board members, because we figured that was the easiest and fastest way to proceed, plus we planned for the initial mentors to become “mentors to the mentors” in subsequent years. In addition, we knew we were only going to have eight or 10 students for the pilot program, so we weren’t going to need as many mentors at first.

We held an open training session for the mentors in late March, and about 40 people showed up for it. They were all told that they were not likely to mentor for the pilot program, but it resulted in having a pipeline of mentors when the program really ramps up.

Chisholm: Who trained the mentors?

Hausman: Catalina Warrick (ACE’s director, Affiliate Relations) conducted the training. It was a couple of hours and covered some basic things. We had a really good mix of architects, engineers and contractors, which I know some of the other ACE chapters have struggled with getting that good balance. We made a point on our board to ensure that we had representation from the different disciplines (A/E/C). This was important so the students could get a cross section, and that one piece was not weighted more heavily than the others were.

Chisholm: What rocks in the road have you experienced?

Hausman: Timing was tough. We looked at each other in February and wondered if we could really pull this off for the spring. We knew it was going to be an abridged program, but still there was a lot to do — so that was challenge No.1. Picking the right people for the pilot was also a small rock — we had three or four high schools wanting to start and we had elected only to use one school for the pilot so we could see how things were going to work. I’m not sure if that was really a rock, but more of a challenge — We wanted to start small enough and not so fast that we would be overwhelmed. Also, there were some small scheduling and logistical problems that just go along with a project like this.

Initially, connecting with the high schools was interesting, because while we had many connections within the construction community, none of us had any connections with the schools, with the exception of a few of the larger contractors. There was some fishing around to determine whom the right people were to connect with — the right schools and faculty who were going to be engaged.

Chisholm: How did you decide on the project?

Hausman: That wound up being a half-hour brainstorming session with the board, and it was actually surprising how long it took for us to come up with it, because it was an obvious project for us in the Twin Cities and that was reconstruction of the Metrodome roof (place this in context with the snow collapse). We did talk about several other possible projects, but that was the obvious one. We wanted to come up with a smaller project since we were on a condensed schedule; so we knew we couldn’t do anything sizable. We wanted a project that had some degree of engineering because we had some engineering mentors. And we wanted a project that the students could relate to. The Metrodome hit on all of these.
Chisholm: How much were Charlie and Pam involved in setting up the chapter?
Hausman: Really, very little. Pam certainly from a discussion standpoint, but the legwork was done by Catalina and Stephanie.

Chisholm: How has Zurich benefited from your involvement with ACE?
Hausman: There are a couple of things. We look at the need for new, educated talent coming into the construction industry all of the time, and I think we see that as one of the biggest challenges for our industry. The goals of ACE are very much aligned with Zurich’s goals. So while these students are not going to work for Zurich, they are going to work for our customers. The program is extremely important to our customers because it’s going to drive construction and quality, which make our customers better, and that in turn makes Zurich better.

Secondarily for us is the continued strong connection that we have with the industry, and we feel very good about being involved with this program that attracts people to the industry. I think we (Zurich) have the opportunity to bring more of our contractor customers into the ACE organization. If we can have several of the larger contractors become engaged and see the value of ACE for their companies — I think that’s an important role for us.

Chisholm: Attracting people to this industry remains a big challenge, especially in these economic times. How do you feel ACE helps with this?
Hausman: The industry is changing so much, and one of the things that is important about this program is that it opens up the students’ eyes that there’s so much more to construction than laying bricks. That’s one of the benefits of this program — the kids see there is so much more to the industry, especially with all of the technological advances.

One of the things we would like to see Zurich more involved in is being a guest speaker at some of the chapters nationwide to talk about risk management, because that is a big topic for the industry that really isn’t part of the ACE program.

Chisholm: Is there anything you’d like to add?
Hausman: I think one of the biggest things for me with this particular chapter is that the engagement of the community has been overwhelming. I don’t think that there’s been a single architect, engineer, contractor or subcontractor that we’ve contacted to help us get the program started that has said “no.” Everyone has wanted to help.
FMI recently caught up with Seth to learn how the first full year at the Twin Cities chapter went and what was ahead for this year.

Chisholm: How did the first full year of ACE go?

Hausman: The first full year, we had three schools that participated, and they really went above expectations, in terms of how they performed overall. At the end of the program, they all had high-level presentations and products that came out of the work that they did. I think their projects all had different nuances and were all a little bit different. Keeping the program itself the same, we certainly learned things as we went through the process with the three schools that we didn’t in the first year. We had a total of 25–30 students who participated.

Chisholm: Were there any repeat students from the pilot program?

Hausman: There were a few repeat students, but since the pilot program was just at one school, many of them had graduated.

Chisholm: How did the expanded program differ from the pilot? I’m sure it was longer.

Hausman: Yes — it ran from October to March. We had more mentors since we had three schools participating. We included two field trips during the course of the program, which we didn’t have the opportunity to do the first time around.

Chisholm: Where did you go on the field trips?

Hausman: One was a school administration project, and the other was a hotel. I went to the first one, where we wound up doing a scavenger hunt on the project site. Actually, it was a controlled scavenger hunt so it wasn’t total chaos. The project team identified a handful of items for the students to go find and photograph, and it was somewhat of a challenge for each team to go and find them all before coming back to the job trailer. It was fun, and they did it late in the afternoon so there wasn’t any construction activity going on. Each of the teams had a captain/coach from the project team, so they were being supervised and mentored as they were going through the process.

Chisholm: What project did the student’s work on for their year-end presentation?

Hausman: All of teams worked on an in-town parking deck. We had one team who submitted its project for ACE’s national competition — it wasn’t selected, but it did go as far as making a submission.

I don’t think that there’s been a single architect, engineer, contractor or subcontractor that we’ve contacted to help us get the program started that has said “no.” Everyone has wanted to help.
Chisholm: How many mentors did you have? I remember from the pilot program there was much interest from industry firms.

Hausman: Yes, there was. If you look at the upcoming program that’s just beginning to start, we’re going to be in five or six schools this year, so we’re adding even more mentors. The challenge on the mentor side continues to be making sure you have the right teams put together with the right time commitments, because there is a fair amount of time spent by the mentors. There are people who would like to do it, but end up on a full-time project site and really can’t get there. That’s been one of the challenges — it takes a lot of finesse to make sure that the mentor teams are correct. Luckily, we’ve had a fair amount of interest that has increased because we increased contractor participation over the course of the year.

Chisholm: How many students do you expect to participate this year?

Hausman: It should be somewhere north of 50 kids this year, with five or six schools.

Chisholm: What will the project be this year?

Hausman: That has not been determined. The national project list that has a handful of choices will be out in the next few weeks, and we will choose one of those so that all of the schools are doing the same thing. That’s what we did last year with the parking deck. Doing one project makes the mentoring process easier, because we only have to build one curriculum. One of the things we learned from last year is that having a standardized curriculum is more effective and efficient for the mentors rather than letting them run by the seats of their pants.

Chisholm: How often do the students and mentors meet?

Hausman: Twice a month.

Chisholm: In addition to the time commitment needed from the mentors, are there any other challenges?

Hausman: Yes, and I think we touched on this earlier, and that’s ensuring that there is an engaged and proactive faculty member at each school. It’s more than just finding the school to participate — we really need an engaged sponsor, and we’ve been so fortunate to have found those people in all the schools we’ve worked with.
Chisholm: Where do the meetings take place?
Hausman: The students meet at their respective schools to eliminate any transportation issues. They do come together for the field trips and the year-end presentation.

Chisholm: How are you locally promoting the ACE program?
Hausman: There are two different vehicles. The construction side is through the contractors who are already participating with their partners, their subcontractors — whomever they’re working with. In the schools, it’s really up to that lead teacher to do most of the promotion, although we will go into the schools at least once to try to help promote it.

Also, last spring we held a contractor’s breakfast to increase engagement within the construction community, and it was really, really, very well attended. For a while, it was just a handful of the larger contractors in town that were driving the show, but we had an outstanding turnout at the breakfast to get involvement from the local construction community.

Chisholm: Anything else?
Hausman: We’re still running and gunning — it’s still fun, and certainly worthwhile.

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.

How can your company join an established ACE program? Please refer to the map of ACE locations on ACE’s website at http://www.acementor.org/511. Contact the regional coordinator in that area, or contact ACE’s national office at 703.942.8101 for further information.

If your area does not have an affiliate program and you are interested in starting one, please contact John Strock, ACE’s executive director, at 703.942.8101 or via email at jstrock@acementor.org.

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On March 10, 2011, following a four-week criminal trial, a federal jury found Zohrab B. Marashlian, the former president of Perini Corporation’s Civil Division (“Perini”), guilty of fraud and conspiracy to launder money. Two days later, he took his own life. What led to this sad and unfortunate outcome? Based on information obtained from the U.S. District Court’s file in United States v. Zohrab Marashlian, Docket No. CR-08-900, I will attempt to answer this question.

PERSONAL HISTORY

Mr. Marashlian was president of Perini’s Civil Division from 1997 to 2007. He was born in Aleppo, Syria in 1944 to an Armenian family. He earned his civil engineering degree from the American University of Beirut, Lebanon, and immigrated to the United States in 1971. He later earned an MBA from Columbia University. Shortly after arriving in America, he was employed by Perini as an office engineer, and through hard work and ambition rose to president. Zohrab Marashlian was responsible for constructing and rehabilitating many high profile projects including highways, bridges, subways, tunnels and wastewater.
treatment facilities. By all accounts, he was a well-respected executive, and a friend to many in the heavy construction industry.

**THE CRIMINAL CHARGES**

The criminal charges against Mr. Marashlian arose out of representations, made to government contracting agencies on certain federally funded projects that Perini would use disadvantaged business enterprises (“DBEs”)¹ to perform certain percentages of work, as required under the public contracts awarded to and performed by Perini. Instead of having the DBE subcontractors perform the specified work, however, the jury found that Zohrab knowingly used the DBE subcontractors as “fronts” for non-DBE companies, which actually performed the work set aside for the DBE companies.

The indictment against Mr. Marashlian, which included numerous counts of mail fraud, wire fraud and money laundering, stated in pertinent part as follows:

The defendants Zohrab B. Marashlian and … others devised a scheme to defraud government-contracting agencies … by falsely representing in proposals and other documents submitted by Perini to those agencies for public works contracts … that DBE subcontractors would perform commercially useful functions in satisfaction of the DBE requirements of those public works contracts.

Contrary to the representations made by Perini, when Perini was awarded the public works contracts, Marashlian … and others did not have the DBE subcontractors perform commercially useful functions on the public works contracts. Instead, Marashlian … and others used non-DBE subcontractors to perform work on the public works contracts that should have been performed by the DBE subcontractors.

It was part of the scheme to defraud that the defendants, Zohrab B. Marashlian … and others caused non-DBE subcontractors to list their employees and supervisors on the payrolls of the DBE subcontractors and order supplies and materials through the DBE subcontractors to create the appearance that the DBE subcontractors were performing commercially useful functions on the public works contracts. Marashlian … further caused Perini to falsely certify to [public contracting agencies] that the DBE subcontractors performed DBE subcontract work on the public works contracts when, in truth and fact, as Marashlian … well knew and believed, the DBE subcontract work on the public works contracts was performed by non-DBE subcontractors (W 13-15 of the indictment, filed December 18, 2008.)
According to the government, Marashlian’s false representations induced, aided and abetted the award of more than $284 million in public contracts to Perini. During the performance of these contracts, Zohrab and others took steps to maintain the illusion that the DBE subcontractors were actually performing the work, by arranging financing and laundering payments through the “front” companies. The progress payments from the public contracting agencies to Perini were deemed by the government to be financial transactions, with proceeds from a specified unlawful activity (i.e., money laundering), because, but for the fraud committed by Mr. Marashlian, Perini would not have been awarded the contract, and would not have received the progress payments. The tainted monies were then paid out, to the supervisors, workers and/or non-DBE subcontractors actually performing the work after a fee for processing the payments was deducted by the DBE (i.e., the DBE subcontractors received a fee or markup ranging from 3% to 5% of their costs). As a result of these frauds, the prosecution pointed out, Mr. Marashlian individually benefited from the receipt of substantial payments, in the form of increased corporate salary and bonuses, totaling $14 million from 1994 through 2007. There was, however, no indication in the court papers that Mr. Marashlian personally received kickbacks from the DBE or non-DBE subcontractors or their principals.

THE “COMMERCIALY USEFUL FUNCTION” REQUIREMENT

In order to receive federal highway funds, New York was required to have a DBE Program meeting federal requirements and has done so by adopting them under 17 NYCRR 35.3.

Under the relevant DBE Programs established by New York State and City agencies (the “NY-DBE Programs”), general contractors are permitted to count toward the attainment of their DBE percentage goals only funds paid to DBE companies that perform a “commercially useful function” in the performance of a contract. Under such NY-DBE Programs, and the associated federal regulations, a DBE company performs a “commercially useful function” when it:

(a) is responsible for the execution of a distinct element of the work of a contract;
(b) carries out its responsibilities by actually performing, managing and supervising the work involved; and
(c) furnishes all supervision, labor, tools, equipment, materials and supplies necessary to perform that distinct element of the contract work.
Pursuant to federal regulations, a DBE does not perform a “commercially useful function,” if its role is limited to that of an extra participant in a transaction, contract, or project, through which funds are merely passed in order to obtain the appearance of DBE participation in a contract.

In order to participate in the NY-DBE Programs, a minority and/or female owned company has to be certified as a DBE by the NYSDOT or the City of New York. “DBE certification” means that a general contractor can receive credit toward the attainment of its DBE percentage goals, by subcontracting work to the certified DBE company.

However, the DBE company still has to perform a “commercially useful function” in order for the general contractor to receive credit; and, as you might guess, the general contractor is responsible for making sure that the DBE subcontractor performs a “commercially useful function.”

Furthermore, pursuant to New York law and federal regulations, a DBE subcontractor is prohibited from subcontracting work it is awarded in connection with its DBE status.

THE CRIMINAL CONDUCT

This is where Mr. Marashlian made a serious mistake that mushroomed into criminal conduct. The prosecuting attorneys claimed, that for over a decade, Mr. Marashlian, and others working under him, repeatedly met with specialty subcontractors, and told them that in order to be awarded work by Perini, they had to bill their work through a DBE company’s name so that Perini could receive “DBE credit.” According to government witnesses, sometimes Mr. Marashlian would dictate which DBE the subcontractors should use as a “front,” and sometimes he did not care what DBE was used, as long as Perini could claim the subcontract work for DBE credit. Whether or not Mr. Marashlian was simply trying to shift the headache of complying with the DBE program away from Perini to Perini’s subcontractors, the jury was convinced that he committed fraud, by directing or causing the specialty subcontractors to transfer their management and workers to the books of DBE companies and having those DBE companies pass on fraudulent invoices to Perini.

RECOMMENDATION

Any person or company, when selecting a DBE subcontractor to perform a certain scope of work on a public contract, should avoid doing business with DBE subcontractors on a “time and material” or “cost plus” basis, unless the DBE can demonstrate a history of performing the subcontract work and managing its own work, including supervising, hiring and firing of employees, and the performance of all administrative functions.
Doing business with certified DBE subcontractors that have nothing more than an office and a handful of clerical employees to run a payroll, purchase materials and pay project related invoices is clearly not enough to meet DBE requirements and will likely draw the scrutiny of government investigators. Everyone in the heavy construction industry should recognize by now that a DBE subcontractor does not perform a “commercially useful function,” if its role is limited to that of an extra participant in a transaction, contract or project, through which funds are passed in order to obtain the appearance of DBE performance of work on a project. The U.S. Attorney clearly stated in a memorandum filed in the subject case that

DBE companies who agree to act as a “billing” or “payroll” service for a fee, generally cease to operate as legitimate contracting companies. The DBE company that acts as a “front” for a legitimate subcontractor or the subcontractors’ employees has the effect of gutting the DBE, reducing or eliminating the need for most employees from the DBE and preventing the company from developing contract experience and increasing in size — all goals of DBE programs.

If you cannot find a capable DBE subcontractor to meet the contract’s DBE requirements, disclose that fact to the public contracting agency at the outset, and request a reduction of the DBE goals set by the agency. Where the public agency determines that “good faith efforts” have been made by the general contractor, and competent DBE subcontractors are not available, the agency should waive compliance with the DBE goal.

For example, according to the government’s court papers, during the time frame involved in Mr. Marashlian’s case, state agencies often reduced DBE “goals” by up to 50% or more, at the request of general contractors, who had attempted, unsuccessfully, to comply.

SHIFTING THE RISK OF DOING BUSINESS WITH DBE SUBCONTRACTORS BACK TO THE GOVERNMENT

The time may have also come for contractors to decline taking on the risk associated with these government set-asides. Besides the mistakes made by Mr. Marashlian and Perini, a number of other well-known and
reputable heavy construction contractors have reached multimillion dollar civil settlements for doing business with DBE companies that failed to perform a “commercially useful function.” In competitively bid construction contracts, why should a contractor be asked to take on the added risk of having to find competent DBE subcontractors, and then hope that such companies are capable of fully performing their scope of work on schedule, and in accordance with plans and specifications?

In order to level the playing field among all general contractors bidding the work, perhaps the United States Department of Transportation (i.e., the federal agency responsible for issuing the regulations governing the DBE Program) should make the local governmental agency responsible for selecting one or more competent DBE subcontractors to perform a defined scope of work as separate prime contractors, and then have the government agree to assume the risk that the DBE prime contractor may fail to perform. The government could select the appropriate DBE contractors through a separate request for proposal (“RFP”) or competitive bidding process, and define the scope of work to be performed by the DBE companies in the main prime contract. This type of arrangement would enable the general contractor to focus on what it does best — managing, scheduling and constructing the Project, without the worry of trying to increase the participation of competent DBE’s in federally-funded public construction contracts. Although this could cause some of the problems that are commonly associated with “Wicks Law” projects in New York, it would eliminate the risk, now faced by general contractors, of being criminally prosecuted for intentionally or unintentionally crossing over the line in order to meet the requirements of the Federal DBE Program.

Hopefully, every executive in the construction industry will learn a lesson from the above story, and pass that lesson on to younger members of our industry in order to prevent a similar occurrence in the future.

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1 A DBE is a small, for-profit business concern that is at least 51% owned and controlled by socially and economically disadvantaged individuals. The firm must be operational, independent and operate in a self-sufficient manner. The owners must meet the federal definition of “socially and economically disadvantaged” (women, minorities, or individuals who can document their disadvantage; all must also demonstrate that their adjusted personal net worth is no more than $1.32 million). Owners must possess the power and expertise to control the daily operations and management of the firm, and be able to establish at least 51% ownership through real and substantial investments of capital. If any one of these conditions is not met, the company does not qualify as a DBE. (49 C.F.R. 26)

2 On October 30, 2009, Perini Corporation entered a civil settlement with the government in connection with the contract frauds outlined in the indictment. Perini paid $37.5 million in settlement, to the government to avoid any actions against Perini Corporation, including actions for false claims against Perini. These monies eliminated any profit from the four contracts referenced in the indictment. Perini also agreed with the USDOT to take steps to insure compliance with the DBE program on future public works contracts.