



Practice Management Digest

News & Best Practices from the PM Knowledge Community

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Features

Letter from the Editors

Management practices of the last 5,000 years have led us to design and build a world that now faces a crisis. Can we expect the management philosophy that got us here to get us out of this mess?

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Featured Articles

The Pleasing Paradox

by David A. Schmaltz

The key to becoming a stellar service provider lies in making only responsible commitments. We must know how and when to say "No," because no one can know what will finally emerge as best. Client and service provider will have to discover what constitutes best, and this always, always, always means stumbling through some uncomfortable territory together.

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Train Wreck Management

by Mary Poppendieck

As business grew and became geographically dispersed in the 1800s, a way to run these businesses had to be found. But there were no models outside the church and the military, so business looked to the Prussian army for a model. And there they found the classic organization chart—the one we know so well today. So where does this leave us? Which is more important—process or people?

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Project Delivery Is Broken: If it's Broken, Fix It!

by Kristin Hill, AIA

Current approaches are fundamentally mismatched. They do not focus on delivering value, collaboration, continuous improvement, and innovation. More of the same isn't the answer. So where can designers look for a solution that will reform the process at its core? One answer: look to lean practices and principles to change the industry.

[» Read the full article.](#)

Projects as Patients: What Can We Learn from the Medical Profession?

by Will Lichtig

Over the past 25 years, projects have continued to grow more complex, but project outcomes have not really improved. Projects are routinely late and over budget. Construction productivity has declined, while nonfarm productivity has increased. Construction projects continue to result in injuries and fatalities each day. Is it any wonder that individuals continue to leave the design and construction professions and the industry is facing a labor crisis?

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My Problem with Design

by Chauncey Bell

Our modern notions of "design" and "designing" trouble me. Not so long ago, if one wanted to become a designer, one first became a master craftsman. Then at some moment we began to separate the "manual" work of craftsmanship and the "intellectual" work of design into two threads.

[» Read the full article.](#)

Target-Value Design: Nine Foundational Practices for Delivering Surprising Client Value

by Hal Macomber, Gregory Howell, and John Barberio

Rework, repricing, change orders, and de-value engineering are all symptoms of a process that ignores the nature of design and the systems nature of the built environment. Target-Value Design turns current design practice upside-down.

[» Read the full article.](#)

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News

Additional Articles

Electronic Discovery: What You Need to Know

by Shannon Soady and Cathy Comstock

Respondents in the engineering and construction sector have the highest litigation costs— 59 percent higher than the average U.S. company spends on its legal work. A large portion of litigation costs is incurred during the complex production of electronic discovery (e-discovery), if a company is not prepared. How should architecture, engineering, and construction firms proactively safeguard themselves in the event of a subpoena, claim, or litigation?

» [Read the full article.](#) (Note: link goes to a PDF.)

Fixed-Price Contracts: Saving the Construction Industry From Itself

by Barry B. LePatner, Hon. AIA

The emergence of a true fixed-price contract, in contrast to the widespread use of construction contracts that allow contract pricing to be readily increased, is imperative if the construction industry's widespread inefficiencies and rampant cost overruns are to be contained.

» [Read the full article.](#)

Resources

The Future of Professional Practice Conference: A Preview

by Michael Bordenaro

The ability to base near-term decisions on recent successes will afford attendees confidence when facing the inevitable business process changes enabled by advanced technology. From university curriculum to large firm management to small-firm case studies, the eclectic interests of the building industry will be addressed by architects...and architects representing owners, engineers, contractors, and manufacturers.

» [Read quotes and interviews with conference speakers.](#)

The Practice Management Knowledge Community (PMKC) has awarded scholarships to two young professionals to attend this conference, cosponsored by the PMKC, to



- Support young professionals' participation in PMKC activities
- Broaden young professionals' understanding of PMKC initiatives
- Include the ideas of young professionals in formulating PMKC thinking
- Celebrate the value of professional conferences to young professionals

The scholarship winners are [R.A. Molldrem](#) and [Melanie Hall](#).

Miscellaneous

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Practice Management Digest

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Letter from the Editors

The *Practice Management Digest* has been providing value to the members of the Practice Management Knowledge Community for more than five years. In order to continually improve on that value, the *Digest* editors have begun a new phase for the publication.

Each issue will feature a topic, driven by the guest editor's expertise. This issue is guest edited by Gregory A. Howell, PE, cofounder and chief operating officer of the Lean Construction Institute (LCI). LCI's purpose is to reform the management of production in the design, engineering, and construction of capital facilities. LCI developed the Lean Project Delivery System™ (LPDS), which applies principles pioneered in manufacturing to construction. LPDS tools facilitate planning and control, maximizing value and minimizing waste throughout the construction process.

Future issues will focus on resource management, human resources, business development, and quality management.

The New World of Management

Yogi Berra said something like "If you always do what you have always done, you will always get what you always got." I wish he had said "If you always think the way you have always thought, then you will always do what you have always done and get what you always got."

None of this issue's articles are specifically about managing an architectural practice. Each is provocative and insightful. Taken together, I see something bigger going on: a shift in how we think about and understand the nature and practice of design and its management itself. Management for the last 5,000 years has been aimed mostly at improving circumstances right here and right now. We can see the development of local optimization, from early agriculture to modern industrial management. Supported by Newton, Descartes, and their intellectual heirs, we have designed and built a world that now faces a crisis. Can we expect the management philosophy and practices that got us here to get us out of this mess?

We know some things—knowledge and technology are expanding ever faster. The shift to a global focus means projects are more complex; cause and effect are harder to understand when everyone has a stake in the outcome. And we are only human as we struggle to sort this out, to understand one another, what matters to each and to us all.

In this issue, you will find recurrent and connecting themes of responsibility, system thinking, history, collaboration, design, and the improvement of these. David Schmaltz' "The Pleasing Paradox" challenges what it takes to produce satisfied clients. "Train Wreck Management," by Mary Poppendieck, explores how we understand the connection between process and people. Kristin Hill's blunt "Project Delivery is Broken: If it's Broke, Fix It!", Will Lichtig's "Projects as Patients: What Can We Learn from the Medical Profession?", and Chauncey Bell in "My Problem with Design" explore how we interpret design. Hal Macomber wraps up the panel by proposing to replace current design practice with "Target Value Design."

In contrast to the others, Barry LePatner proposes that construction be understood as buying a perfectly defined product. This provocative stance is the opposite from the move to integrated forms of agreement, and appears to reduce if not eliminate the possibility of trade contractor involvement in design and the dramatic savings from restructuring work to optimize the project, not the piece. We agree that a frank conversation about project risks is important. That conversation should be based on confronting the risk created by the way work is managed under the contracting approach.

One of the principal ways of changing what we have always thought is to engage with the thinking of people outside our usual discourse. We're pleased

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to have brought this diverse panel to you.

—The AIA Practice Management Editors

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The Pleasing Paradox

by David A. Schmaltz

I recently worked with a group that was trying hard to make their customers happy. Their customers were likewise also focused on making their customers happy. The whole place felt self-sacrificial, as if the key to success could be found in doing whatever it takes to please others. No one seemed terribly happy with the results.

They were playing into the Pleasing Paradox. Studies have shown that the most satisfied customers have had one or more disappointing experiences with their service provider. Recovery creates more satisfied customers than flawless delivery ever does.

The challenge is to be of service without becoming servile. We shouldn't elevate any customer to the role of superior being, but treat each with human respect.

Human respect does not involve treating others as if they were superior or defining yourself through their expectations just because they're paying the bill. Human respect means being responsible, not overly responsible—a curious form of irresponsibility. Don't cut others' meat for them.

Human respect demands that I respect myself so that I can respect others. Whenever I take that humbling step down and backwards, I can lose my own self-respect, and thereby forfeit my ability to really respect—or be of real service—to anyone else. When I can engage with my customer as a peer, we both seem more satisfied with the result.

Requiem for Requirements

Basing any project's success upon merely satisfying customer requirements encourages servile engagement. No customer knows best. You can't know best, either. Best will be discovered lurking in the relationship between both perspectives. Requiring transforms juicy opportunity into musty obligation.

Engage more responsibly by interpreting requests as preferences. A preference tags a choice while a requirement creates a duty to deliver. What first seems an obvious necessity can become an absolute absurdity. To be of real service, we must balance the whole, not just deliver the sum of the initially preferred parts.

Can we satisfy our customers without also satisfying ourselves? The customer might not understand that, by engaging our services, they are agreeing to participate in a conversation that neither of us could possibly know how it will turn out. We've all been in conversations before, and we already know that if anyone knew at the beginning where a conversation would meander, there'd really be no reason to engage.

Make this implicit understanding more explicit. Every service interaction is a conversation. Engage with an inquiring mind. Set your certainties aside and encourage your customer to set theirs aside, too.

Two Little Letters, One Little Word

The key to becoming a stellar service provider lies in making only responsible commitments. This requires not simply being knowledgeable about what must be done but "no-legible" about how preferences resolve into satisfying results. We must know how and when to say, "No," because no one can know what will finally emerge as best. Client and service provider will have to discover what constitutes best, and this always, always, always means stumbling through some uncomfortable territory together.

The Nos learn what no nose could ever know. I offer my prospective clients a little taste of my best medicine by offering them a dedication test in our first

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conversation. I invite them to agree to something a little unusual. Odd payment terms. An inconvenient meeting time. I don't do this to be contrary, but to help forge a real relationship between us, one where disagreement is embraced and satisfaction is forged, rather than simply expected. Whether they respond with "No" or "Yes," we can continue the conversation. As peers. Not simply as compliant consultant to commanding client.

The feeling that we might not be able to make our customer happy is an important sense, one we should acknowledge early in the relationship. Could it really not be your job to make the customer happy? Let customers be responsible for their own happiness! Should they mistake you for the source of their happiness, they're sunk. Should you mistake yourself as the source of their happiness, you're both doomed to a particularly virulent, possibly permanent form of disappointment. A most pleasing paradox!

David A. Schmaltz is the founder of True North project guidance strategies Inc. (<http://www.projectcommunity.com>) and the author of The Blind Men and the Elephant: Mastering Project Work—How to Transform Fuzzy Responsibilities into Meaningful Results (Berrett-Koehler Publishers, 2003). Schmaltz can be reached at david@projectcommunity.com .

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Train Wreck Management

by Mary Poppendieck

"On October 5, 1841, two Western Railroad passenger trains collided somewhere between Worcester, Massachusetts and Albany, New York, killing a conductor and a passenger and injuring seventeen passengers. That disaster marked the beginning of a new management era."^[1] These words open Peter Scholtes' classic book on leadership. He goes on to explain how the term "management" was unknown in the days of cottage industries. As business grew and became geographically dispersed in the 1800s, a way to run these businesses had to be found. But there were no models outside the church and the military, so investigators into the train-wreck disaster looked to the Prussian army for a model. And there they found the classic organization chart —the one we know so well today. Scholtes calls it the "train-wreck" chart. It was revolutionary at the time.

The purpose of what became today's organization chart was clear: the assignment of responsibility would enable "prompt detection of derelictions of duty...and point out the delinquent." Scholtes says: "A fundamental premise of the 'train-wreck' approach to management is that the primary cause of problems is 'dereliction of duty'. The purpose of the organizational chart is to sufficiently specify those duties so that management can quickly assign blame, should another accident occur."^[1]

Blame

Note the thinking here: problems are caused by people who don't do their job well, so finding someone to blame is the first step to correcting problems. Scholtes notes: "The era of management that began in the mid-1800s can be characterized as "management by results"....Since managers could no longer do the work themselves or direct others in the doing of the work, managers exercised their authority by holding people accountable for results....In the 1950s, management by results reached its epitome in MBO (Management By Objectives) and performance appraisal, the Harvardization of train-wreck management."^[1] He goes on to say that at the time, this theory of management was the best available, and it succeeded in creating order out of chaos. "People like Whistler, McCallum, Frederick Taylor, or Henry Ford in the United States or Darby, the Stephensons, or Brunel in England were pioneers....[T]hey did their best and, by and large, what they did was very good."

"Meanwhile, in Japan..." is the title of the next section of Scholtes' book. He chronicles how a better approach to management emerged in Japan in the 1950s, assisted by W. Edwards Deming. Deming taught that most of the problems we encounter (perhaps 90 percent) are the result of multiple influences; they generally cannot be attributed to a single cause. Assigning blame for a problem to the last person involved is worse than counterproductive, it will probably make the bad situation worse. Exhorting people to "be careful," "try harder," and "work smarter" is not useful if individuals have little effect on results. Rewarding or punishing people for outcomes that are not under their control can only result in discouragement—or in gaming the system. Instead, chronic problems must be fixed by finding their underlying causes and addressing these effectively. As Deming points out, this usually involves changing the system—the way things are done. And according to Deming, it is management's job to change the system.

Process or People?

Agile software development places a strong emphasis on putting change into the hands of front-line people on self-directed teams—isn't this contrary to Deming's philosophy? Writing in 1995, Scholtes lists what he calls "fads" for addressing systemic problems: "empower people, put them into self-directed teams, motivate them, offer incentives, reengineer and reinvent them." And then he says: "All of the empowered, motivated, teamed-up, self-directed,

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incentivized, accountable, reengineered, and reinvented people you can muster cannot compensate for a dysfunctional system....A well-run organization with well-functioning systems allows people from top to bottom do work of which they can be proud."^[1] So where does this leave us? Which is more important—process or people?

It helps if we trade in the overloaded word "process" and use "system."

In the article "Managing a Living System, not a Ledger,"^[2] H. Thomas Johnson says "Managers at Toyota believe that improving the system is the surest way to improve long-term financial results." He points out that Toyota takes lots and lots of measurements, but they do not use these as *performance measurements*. Johnson writes: "Toyota makes virtually no use of management accounting targets (or 'levers') to control or motivate operations....Toyota focuses its operations on continuous system improvement through endless rapid problem solving. And they emphasize *genchi genbutsu*, or 'going to the place,' to see where a problem occurs, firsthand. They don't rely on second-hand reports or tables and charts of data to achieve a true understanding of root cause. Instead they go to the place (*gemba*) where you can watch, observe, and 'ask why five times.' This attitude shows a deep appreciation that results (and problems) ultimately emanate from, and are explained by, complex processes and concrete relationships, not by abstract, quantitative relationships that describe results in simple, linear, additive terms." Winding up the article, Johnson says: "Financial quantities cannot reveal if a system is improving or not....No company that talks about improving performance can know what it is doing if its primary window on results is financial information and not system principles....Companies that intend to perform like Toyota should recognize that...they will never get there by trying to motivate and direct 'lean' initiatives with 'lean accounting' and management accounting 'levers of control.'"

Taiichi Ohno on Standard Work

Let's go back to the source of the Toyota Production System, Taiichi Ohno, and see what he had to say about process—how it is established and how it is changed.^[3]

There is something called standard work, but standards should be changed constantly. Instead, if you think of the standard as the best you can do, it's all over. The standard work is only a baseline for doing further *kaizen*. It is *kai-aku* [change for the worse] if things get worse than now, and it is *kaizen* [change for the better] if things get better than now. Standards are set arbitrarily by humans, so how can they not change?

When creating Standard Work, it will be difficult to establish a standard if you are trying to achieve "the best way." This is a big mistake. Document exactly what you are doing now. If you make it better than it is now, it is *kaizen*. If not, and you establish the best possible way, the motivation for *kaizen* will be gone. That is why one way of motivating people to do *kaizen* is to create a poor standard. But don't make it too bad. Without some standard, you can't say "We made it better" because there is nothing to compare it to, so you must create a standard for comparison.

Take that standard, and if the work is not easy to perform, give many suggestions and do *kaizen*.

We need to use the words "you made" as in "follow the decisions you made." When we say "they were made" people feel like it was forced upon them. When a decision is made, we need to ask who made the decision. Since you also have the authority to decide, if you decide, you must at least follow your decision, and then this will not be forced upon you at all.

But in the beginning, you must perform the Standard Work, and as you do, you should find things you don't like, and you will think of one *kaizen* idea after another. Then you should implement these ideas right away, and make this the new standard.

Years ago, I made them hang the standard work documents on the shop floor. After a year I said to a team leader, "The color of the paper has changed, which means you have been doing it the same way, so you have been a salary thief for the last year." I said "What do you come to work to do each day? If you are observing every day you ought to be finding things you don't like, and rewriting the standard

immediately. Even if the document hanging there is from last month, this is wrong." At Toyota in the beginning we had the team leaders write down the dates on the standard work sheets when they hung them. This gave me a good reason to scold the team leaders, saying "Have you been goofing off all month?"

If it takes one or two months to create these documents, this is nonsense. You should not create these away from the job. See what is happening on the *gemba* and write it down.[3]

Process AND People

Ohno believed that the primary job of team leaders (first line supervisors) is the constant improvement of the way work gets done. Work standards should be written and posted, but this had better not take very long because the standards should change all the time—at least once a month. Standards are not about how work *should* be done, but how work is being done. You don't want the standard to be too perfect, because that leaves no incentive for workers to improve their standards. If workers are annoyed by a standard, they are expected to change it. They do not drop a suggestion in a suggestion box, they do *kaizen*. That is, workers—led by their team leader—do many rapid experiments, find a better way, agree on the improvement, quickly document the new way, and use it. When a standard is improved, the decision for the change must be made by the people doing the work, so they won't feel it is being forced upon them.

People *like* to use effective processes, and they also like to have control over their own environment. The Toyota Production System provides for both. Ohno made it clear that people must be at the center of improving their own processes. Process improvement may be done only "at the *gemba*" and it is up to the workers to decide whether or not a proposed improvement should be implemented. Workers are expected to keep changing the way they do their job; in fact, it is bad leadership to have a process so perfect that workers have little incentive to improve it!

Assessment and Certification

Scholtes takes process improvement assessment programs such as International Organization for Standardization (ISO) 9000 to task because even though they seem good on the surface, they have some problems:[1]

1. The pursuit of quality must be guided by a larger context than certification—it requires a holistic, integrated, long-term commitment.
2. Certification is not equal to satisfied customers—you can do the wrong thing as long as you do it consistently.
3. Assessment has a tone of paternalism and mistrust—it replaces internal motivation with external motivation.
4. Assessment assumes that inspectors are all the same—but inspections are not standardized.
5. A certified process is difficult to change—Ohno would be appalled.

Conclusion

When Deming said "change the system," he was talking about changing the complex, interrelated processes used to get work done. Deming believed that changing the system is management's primary job, and in order to do this, managers need competency in four areas:

1. Appreciation for the overall system in which work is done
2. An understanding of variation—and the true relationship between cause and effect
3. Constant pursuit of learning (improvement) through designed experiments
4. An understanding of the psychology of people

When all of these areas are balanced and working together, great things can happen.

Mary Poppendieck and Poppendieck.LLC are dedicated to bringing lean thinking to software development. This article was previously published on the Poppendieck.LLC Web page.

[1] Peter R. Scholtes, *The Leader's Handbook* (Columbus, Ohio: McGraw-Hill, 1998).

[2] H. Thomas Johnson, "Managing a Living System, Not a Ledger" (Lean Manufacturing 2007; supplement to SME, *Manufacturing Engineering*, August

2007).

[3] Taiichi Ohno (trans. by Jon Miller), *Taiichi Ohno's Workplace Management*, (Mukilteo, Wash.: Gemba Press, 2007).

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Project Delivery Is Broken

If it's Broken, Fix It!

by Kristin Hill, AIA

We all get the saying, "If it ain't broke, don't fix it." But we don't get the concept of "if it is broke, fix it" in the design industry. Project delivery is broken. Projects are riddled with cost and schedule overruns, rework, arguments, and lawsuits. Who is happy in the end? Our current approach needs more than patches and bandages.

Current approaches are fundamentally mismatched. They do not focus on delivering value, collaboration, continuous improvement, and innovation. Instead, silos are built, work is thrown over the wall, communication is defensive, and work must be redone throughout projects. Value is lost to waste. Motivation is lost to dissatisfaction. The problems begin when we misapply a linear, waterfall planning approach to design, which is organically cyclical and iterative. Then we add command-and-control habits that lull us into a false sense of control over an emergent process. More of the same isn't the answer. So where can designers look for a solution that will reform the process at its core? One answer: look to *lean* practices and principles to change the industry.

What Is Lean?

Lean is the term used to characterize the Toyota Production System. It is based on defining value from the client's perspective and taking only those actions that deliver that value. It is about making work flow, working at the pull (request) of the customer, improving the predictability of workflow, and constantly pursuing perfection and learning. Ultimately, it is about people building trust by making and keeping commitments to one another...it is about honoring people.

On the surface, it may sound like what we are already doing. Dig deeper and it is clear that we are not. Current practices and our contracting methods create barriers, leaving us caught in a blame game with our clients, consultants, and contractors. We can take an approach based on recognizing the autonomy of design professionals coupled with lean principles.

Responsibility-based Project Delivery

Responsibility-based Project Delivery™ (RbPD) is a commitment-based, value-focused, highly collaborative approach to planning and managing projects. It addresses the pitfalls of traditional project management. It views a project as a promise, a very big promise that is planned, designed, and delivered by people operating in ever-changing networks of commitments.

RbPD draws from years of research of both Toyota's product development and agile software design approaches. Using lean practices and principles, small cross-functional teams collaborate and communicate to perform work in small batches. These teams self-organize to deliver predetermined, clearly defined work in time-boxed cycles. They make daily commitments to each other within their team, and as a team they commit to the project as a whole: creating and activating a network of commitments. The client's requirements and definition of value (their conditions of satisfaction) are the sole focus and responsibility of the chief designer, who commits to deliver to those conditions.

Project planning is done collaboratively by the whole team. Commitments to the client are aligned to those within the team. This produces a shared understanding of what needs to be done and when. Teams continue to plan as they go, keeping the work synchronized. Assuming responsibility for specific deliverables, teams are empowered to balance their own workload and adapt to emerging situations. Individuals and teams identify and communicate constraints to getting their work done to a team steward, who is responsible

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for removing them to keep work flowing.

The teams include people from multiple disciplines and functions, such as architects, engineers, estimators, and subcontractors. They operate in a constant plan-do-check-adjust (PDCA) cycle: a fundamental lean mode that leads people to be reflective on and constantly improve their work.

The RbPD approach supports the iterative nature of design work as it moves, indeed cycles, between technical specialists. The approach allows work and information to flow, fosters collaboration and innovation, prevents rework, and focuses on delivering value to the client. For most designers it creates the circumstances that attracted them to the field in the first place. RbPD is a far more human way of doing design.

What Can We Do?

We can stop clinging to command-and-control habits that are counterproductive to building high-performing teams. We can replace those habits with new behaviors of making and securing reliable promises. And we can embrace the natural autonomy of human beings with the approach we take. We can throw away our bandages, and as an industry, take a more responsible approach to the work that we do.

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Projects as Patients

What Can We Learn from the Medical Profession?

by Will Lichtig

When was the last time that you checked on the health of your project?

Over the past 25 years, projects have continued to grow more complex, but project outcomes have not really improved. Projects are routinely late and over budget. In real terms, construction productivity has declined, while nonfarm productivity has increased by more than 200 percent. Construction projects continue to result in 1,200 injuries and 4 fatalities each day. Is it any wonder that individuals continue to leave the design and construction professions and the industry is facing a labor crisis?

Whatever can be said of the role of management in the improvements seen in other industries, there is little to cheer about in design and construction. Successful projects—those that are delivered early, under budget, safely, profitably, with high owner satisfaction, and with participants who want to work together again—are few and far between. As my friend and colleague Hal Macomber often says, “project participants often come together as strangers and leave as enemies.” Is there something inherent in design and construction that makes this outcome inevitable? Or are we failing to properly diagnose and treat the illness that is producing these symptoms?

At the outset, let’s begin by focusing on defining the problem. Projects are temporary social organizations. On most projects, companies and individuals within each of those companies are thrown together without much courtship. The companies have typically become successful by mastering the rules of a traditional game where they seek to tightly define their responsibility based upon the available information, pretend that the future will unfold as described at the outset, and seek to hold others accountable when the future inevitably unfolds in a way that is different than predicted at the outset. It is a game of winners and losers—whether in the context of contractors versus designers or trade versus trade. The rules of engagement are well defined, both in the project documents and the rulebook published by the lawyers and insurance companies.

As the project unfolds, participants begin to look for excuses for their own inability to accurately predict the future, and look to blame others for not being prescient. The role of a manager is to prepare and execute on a strategy to preserve the profit margin and identify who is responsible for any cost and time overruns. This is how the traditional game is played and it is small wonder that it has produced unsatisfactory results and unsavory opinions or project participants. In this situation, lack of trust and poor communication is understood as the problem rather than a symptom.

There is a different future that can be created.

Project teams are like a patient. Individual team members are like different body parts that must all function together well in order for the system to function properly. If one part of the body is unhealthy, the rest of the body suffers.

Healthy teams are much more likely to navigate the inevitable uncertainty that will beset the project. They will be able, like a healthy immune system, to fight off the potential for illness brought about by changes, uncertainty, delays, and the like. Unhealthy teams, by contrast, are likely to have compromised immune systems and succumb to uncertainty and the resulting adversity. So what can be learned from the medical profession that might help managers diagnose threats to project health and help the patient heal?

For the moment, let’s focus on diagnosis. In general, the role of the physician is to identify disease and its symptoms; understand its mechanisms; and comprehend how to prevent, treat, or cure the disease. In turn, medical

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diagnosis involves understanding the context of the patient (individual history and social setting), observing the patient's symptoms, examining the patient, performing tests, developing a hypothesis of the underlying disease, and implementing and monitoring a treatment plan. A proper diagnosis requires that the physician understand the characteristics of the healthy human in order to assess the patient's condition.

Once the diagnosis is made, the physician develops and implements a treatment plan, followed by further monitoring to determine how the patient is progressing. Throughout treatment, the physician continues to assess progress and adjust the treatment plan to accommodate changes in the patient's condition.

But how might we apply this to the design and construction industry? Bear with me for a bit more analogy.

For thousands of years, childbirth was the most common cause of death for young women and infants. Between 1930 and the mid-1950s, medical standardization and improvements in U.S. healthcare caused a decrease in maternal mortality from 1 in 150 to 1 in 2,000! During this same period, however, there was no improvement in infant mortality—1 in 30 infants died at birth. It took Virginia Apgar's revolutionary yet simple ideas to transform obstetrics and improve infant mortality.

Although Apgar was not an obstetrician, she attended many births as an anesthesiologist. Based on her observations of newborns, their visible indicators, and ultimate outcomes, she developed a scoring system that gave nurses a simple diagnostic tool to quickly assess a newborn's condition at 1 minute and 5 minutes after birth. According to the medical profession, it turned an intangible and impressionistic concept of a newborn's condition into discrete observations that could be recorded on a 0–2 scale. The scoring focused on heart rate, respiratory rate, reflex to stimulation, muscle tone, and color.

By collecting this data, it caused the profession to focus on observing, diagnosing, and treating newborns' conditions in an effort to improve their scores. The Apgar score remains part of common practice around the world and is widely credited with saving thousands of lives. As noted by Atul Gawande, "the Apgar score changed everything....[I]t gave clinicians at the bedside immediate information on how they were doing....The Apgar effect wasn't just a matter of giving clinicians a quick objective read of how they had done. The score also changed the choices they made about how to do better." (Atul Gawande, "The Score: How Childbirth Went Industrial," *The New Yorker*, October 9, 2006, http://www.newyorker.com/archive/2006/10/09/061009fa_fact [accessed November 12, 2007]).

So how do we begin to develop an Apgar score for our projects? Today, do we study only the equivalent of mortality statistics by focusing almost exclusively on profit and "burn rate"? What instead are the leading indicators that will help us diagnosis, develop a course of treatment, and then monitor a project's progress in returning to health? What are the positive characteristics that produce successful projects that we should monitor to identify illness? Let me offer a few suggestions:

1. *Collaborative planning.* John Wooden said that "failing to plan was planning to fail." Projects need a collaboratively developed set of nested plans in place for the long term (major upcoming phase), medium term (six-week look-ahead), and short term (weekly work plan). This does not mean a unilaterally developed master critical path method (CPM) schedule. It is not the plan itself that is paramount; rather it's the planning conversations of the team readying themselves for action. Assuring that planning is done collaboratively and the team is updating the plan weekly will require the team routinely to engage in these necessary planning conversations to create a network of intercompany and interpersonal commitments to support the project's overall promise.
2. *Reliable promising.* Healthy projects consistently have people doing what they say they are going to do when they say they are going to do it—meeting the expectations of their internal and external customers. Modern management theory is coming to embrace that projects are networks of commitment and that the role of management is to ensure that team members are making and securing reliable promises for performance. We all understand that on complex projects our ability to perform is usually dependent on others' performance. When others fail

to perform as expected, it causes ripples throughout the project. It doesn't take long to think of a situation where someone else's failure to perform as promised caused us harm. If they had only told us they would not have been able to perform, we might have been able to come up with an alternate plan. We need to encourage performers to not overcommit, and to report early when circumstances will not allow them to complete as promised. This will allow the team to replan and adjust.

3. *Unaccounted-for foreseeable issues.* If we are going to steer to avoid the bumps in the road, then we need to know where the bumps are before we roll over them. In order for the planning effort and reliable promising to be successful, all team members must identify potential impediments or constraints on their ability to perform sufficiently in advance to allow another team member to make a reliable promise to clear that constraint. For example, if architects and engineers are expected to make reliable promises when they will furnish clarifications, the trades must all be planning their work to identify potential issues well in advance (six weeks). We need to know how many issues will need resolution in order to make sure that we have adequate resources to respond by the date promised. Nothing disrupts an architect's ability to fulfill its commitment more routinely than the interruption of a problem that has become "urgent" as a result of another party's failure to plan. Successful projects avoid the "tyranny of the urgent" by thoughtful team-wide planning.
4. *Safety.* Healthy projects are safe projects. Where workers have the information, tools, equipment, and materials they need when they get to the worksite, project safety improves. Where material rehandling is minimized, project safety improves. Injuries and near-misses often are indicators of failures in the planning system.
5. *Project mood.* Winning teams, whether in sports or in business, benefit from having a team spirit, a positive outlook, and a culture of learning in which all the performers feel appreciated. A recent Gallup study concluded that one of the primary distinguishing characteristics of high-performing teams was that team members were acknowledged at least once every seven days. In contrast, a primary reason for employee disaffection is feeling unappreciated or that their work lacked value. What happens to the work product when team morale is crushed by having to perform rework or feeling besieged by a barrage of "unfounded" questions? Assessing the mood of the primary team members will often be a telltale for the entire team. Is the team's outlook positive? Are members of the team overburdened or feeling overworked? Do people trust each other? Are they honest and respectful with each other, or do the "real" conversations happen in private or after the meeting?

Using this diagnostic tool calls on each team member to pause from the daily grind and reflect on the project's health. Each member of the project's executive team should score the project separately on a monthly basis. The scores should then be shared among the executive team members at a meeting expressly for considering the project's health—diagnosing, developing a treatment plan, and monitoring the project's progress back to health. If the project's Apgar score is superb, then use this opportunity to focus on areas where the team's continuing health could be promoted by a "wellness program," further improving its resistance to disease.

The meetings' environment must be conducive to openness and honesty, recognizing that promoting project health is in the best interest of all parts of the "patient." The executive team should focus on developing a treatment plan, not on the symptoms. To the extent that the executive team identifies a particular team member that needs help to succeed, it should focus on what each team member can do to help restore health, not simply focus on the struggling team member and tell them what to do to heal themselves. Obviously, their immune system has been overcome and they are unlikely to recover without treatment. The project team must identify the disease's root cause, mobilize the project's immune system, and develop a systemic treatment plan that promotes full recovery!

Project Apgar Score

Category	2	1	0
Collaborative Planning	Phase, 6-week, and weekly work plan in place and updated weekly	One or more elements not in place or not updated weekly	Two or more elements not in place or not updated weekly

Projects as Patients

Reliable Promising	Plan promises completed (PPC) >80% and rising	PPC <80% or trending down for more than 1 week	PPC <60% or trending down for more than 3 weeks
Unaccounted-for Constraints	No foreseeable items arising that were not captured in the 6-week look-ahead plan	Foreseeable items arising, but not delaying activity	Foreseeable items arising and causing resource reallocation or delays
Safety	No reportable injuries; no near-misses; no unsafe conditions	Unsafe condition or near-miss	Reportable injury
Mood	Uniformly positive; honesty and trust evident; team learning and improving	Declining morale; partial openness or honesty; traditional silos developing; tempers short	Cooperation lacking; team uninterested in learning

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My Problem with Design

by Chauncey Bell

Our modern notions of "design" and "designing" trouble me. Our normal way of understanding design decomposes important unities into arrangements of trivial components. By analogy, in our attempt to understand the design of a meal as a collection of ingredients and activities, we miss the chef's competence and the meal itself. Too often we understand designs as idiosyncratic arrangements of components according to a logic that made sense to a "talented" person at the time it was done. We moderns think nothing of removing activities and things from their contexts—from the practices and histories in which they were born. We act as if we can understand things in a way that is distinct from the worlds in which they exist. "Rearranging the deck chairs on the Titanic" becomes a class of error that we cannot clearly assign to the designer.

Not so long ago, if one wanted to become a designer, one first became a master craftsman. Apprentices and journeymen learned to construct distinctive artifacts. Masters innovated in their tradition. To say one was a "designer" without craftsmanship in the background would have been Harry Potter-esque: ridiculous. Then at some moment we began to separate the "manual" work of craftsmanship and the "intellectual" work of design into two threads.

How might we begin to recover the essential unity that is missing in so many of today's "designs"? We will need to adjust how we understand what design is, what the designer is expected to do, and how the designer goes about working.

I understand the role of the designer as *bringing new practices* to people. Designs themselves are *components* of practices. A pen without ink, paper, hands, language, and writing is a component and not very interesting. The designer's unity is a new or improved practice: human beings in the midst of concerned activities, supported by networks of equipment and help, taking care of things that matter to them. At the end of any successful design project—no matter how modest or grand—we will be able to observe a community of human beings working together in ways that are new or changed, and those new ways of working will bring specific incremental value to them.

A number of years ago I realized that I was no less susceptible to falling in love with my "designs" than others, and that falling in love with a component was a surefire way of wasting time. So I built a conceptual structure that would let me keep track of the unity of the shifted practice, and called the structure *Five Domains for Bringing a New Practice*.

- *Provocation*: a designer seeking to bring new practices must provide big provocations. Changing practices is expensive. To begin to work in a different way costs money; people lose power and identity; and it takes a substantial human investment to bridge the chasm from old to new. Moreover, building a new practice takes more than one provocation. Each affected party to the changes needs provocations. Executives, investors, workers, and suppliers have different kinds of concerns, and need to be provoked in positive ways. Further, the right kinds of provocations are not stable; they change over the course of a design project. Provocations sufficient for a pilot are often insufficient for constructing a whole new way of working.
- *Diagnosis*: a successful change in practices is built upon a good diagnosis. "Problem solving" is a sufficient distinction for changing suppliers or the brand of some device we use, moving our office, or adding a computer, but not if we are changing essential practices. Skillful design starts with a powerful interpretation about the current situation that provides an explanation of what gave rise to the current situation, helps us to select the right team, and guides the design of a broad set of actions needed as a community moves from one world of

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practices to another.

- *Offers:* commitment fuels the process of bringing a new practice, and starts with offers. We offer to take a look at some situation, then offer to provide proposal, prototype, pilot, plan, and budget, and manage the change involved. The process of bringing a new practice moves in a sequence of offers. The exchanges of promises (I offer you x, in exchange for y) produces the force and authority in which changes are made.
- *Mobilization:* we bring the new practice to the community, and when we leave them they are working in a new and more effective way. When we move our attention from constructing components to building the unity of a new practice, we shift our attention from bringing artifacts and discrete components to facilitating the community to working in a new way. Devices, training, and the like are equipment to help us with that job.
- *Accumulation:* the test of a new practice is that it allows us to accumulate value at a faster rate than before. I use the word capital to refer to "stores" of different kinds of value on which the designer puts attention while bringing a new practice: financial (money), pragmatic (know-how), or symbolic (identity). If an investment to produce a new practice does not produce increases in one or more kinds of capital, then the investment was wasted.

In this framework, failed implementations are design errors. If a new practice is not effective, unmanageable, or the like, those are design errors.

We human beings are wired for concerned involvement with each other. We arrive in a world already "designed" for that. Every day, everywhere we look, we can see things broken, missing, and in the way. Those with the audacity to develop themselves as designers dare to intervene in this world. They invent and bring new practices, habits, artifacts, tools and systems that help reshape the way we coordinate in our worlds.

Chauncey Bell is chief operating officer of CareCyte, Seattle. This article is abstracted from a longer piece.



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Target-Value Design

Nine Foundational Practices for Delivering Surprising Client Value
by Hal Macomber, Gregory Howell, and John Barberio

Throw-it-over-the-wall design, performed by specialists and subspecialists working in isolation from others interacting with the design, results in projects that are unaffordable, unconstructable, off-target, and late. Rework, repricing, change orders, and de-value engineering are all symptoms of a process that ignores the nature of design and the systems nature of the built environment.

Target-Value Design (TVD) turns current design practice upside-down:

- Rather than estimate based on a detailed design, design based on a detailed estimate
- Rather than evaluate the constructability of a design, design for what is constructable
- Rather than design alone and then come together for group reviews and decisions, work together to define the issues and produce decisions then design to those decisions
- Rather than narrow choices to proceed with design, carry solution sets far into the design process
- Rather than work alone in separate rooms, work in pairs or a larger group, face to face

TVD offers designers an opportunity to engage in the design conversation concurrently with those people who will procure services and execute the design.

A Little Background

What do we mean by design conversation? We hold design as principally a social activity. The notion that some one person sits alone and is inspired to design misses both the nature of design and the countless contributions from others. The point of design is to bring forth new value in line with the client's interests.

What is value? Value is an assessment made relative to a set of concerns that someone wants addressed. There is nothing of *value* independent of a person saying (assessing) it is *valued*. Client concerns—interests, not worries—must be kept in the foreground of the design conversation. Doing so allows designers to engage in a conversation for exploring various ways to take care of the concerns of that client. Those concerns inevitably change over the life of the project. As design proceeds new concerns arise while others fade away. Locking down requirements early in the process cuts short the exploration and development of the clients' concerns. Consequently, design suffers as does the value delivered to the client.

What roles do clients play? Clients are key performers during design, not just customers. As performers they express their concerns, make value assessments, and eventually make choices. When clients fail to take those actions in a timely way it leads to immeasurable waste for the project team. The team cannot let their fear of the client get in their way of holding all performers, including the client, to act responsibly.

TVD Foundational Practices

Here we introduce nine practices for creating the conditions for delivering the target value from the design process:

1. *Engage deeply with the client to establish the target value.* Both designers and clients share the responsibility for revealing and refining concerns, for making new assessments of what is value, and for selecting how that value is produced. Continue engaging with the client throughout the design process continue to uncover client concerns.
2. *Lead the design effort for learning and innovation.* Expect that the

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team will learn and produce something surprising. Establish routines to reveal what is learned and innovated in real time. Also expect that surprise will upset the current plan and require more replanning.

3. *Design to a detailed estimate.* Use a mechanism for evaluating design against the budget and the client's target values. Review how well you are achieving the targets in the midst of design. When budget matters, stick to the budget.
4. *Collaboratively plan and replan the project.* Use planning to refine practices of coordinating action. This will avoid delay, rework, and out-of-sequence design.
5. *Concurrently design the product and the process in design sets.* Develop details in small batches (lot sizes of one) in tandem with the *customers* (engineer, builders, owner, users, architect) of the design detail. Adopt a practice of accepting (approving) completed work as you design.
6. *Design and detail in the sequence of the customer who will use it.* This maintains attention to what is valued by the customer. Rather than doing what you can do at this time, do what others need to do what they need to do next. This leads to a reduction in negative iterations.
7. *Work in small and diverse groups.* Learning and innovation arises socially. The group dynamics of small groups—eight people or less—is more conducive to learning and innovating: trust and care for one another are established faster; and communication and coordination are easier.
8. *Work in a big room.* Colocating design team members is usually the best option. Design is messy. Impromptu sessions among design team members are a necessary part of the process. So are regular, short codesign sessions among various specialists working in pairs.
9. *Conduct retrospectives throughout the process.* Make a habit of finishing each design cycle with a conversation for reflection and learning. Err on the side of having more retrospectives, not less. Use plus/deltas at the end of meetings. Use more formal retrospectives that include the client at the end of integration events. Instruct all team members to ask for a retrospective at any time, even if they just have a hunch that it might uncover an opportunity for improvement.

How to Proceed

Be careful not to pick and choose from the above nine practices. We call them foundational practices, indicating that taken together they establish a base for adopting other lean design practices. Both *responsibility-based project delivery™* and *knowledge-based design* build on TVD.

Also, be careful not to think "We already do this." While we have taken care to describe what we see as different, we recognize that it might sound like something very familiar. Consider how what we are describing here is different from what you are doing.

Adopt an experimental approach to adoption—plan-do-confirm-adjust (PDCA)—based on the scientific method. While the nine foundational practices work, exactly how they work for your organization and specific projects might vary. Use your team leaders to bring about TVD practices on a project-by-project basis by considering both what is being designed and who will be doing the work. Stay close to these early experiments standing ready to offer whatever help the project team needs to succeed both on their project and with these new practices.

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Fixed-Price Contracts

Saving the Construction Industry From Itself

by Barry B. LePatner, Hon. AIA

The emergence of a true fixed-price contract, in contrast to the widespread use of construction contracts that allow contract pricing to be readily increased, is imperative if the construction industry's widespread inefficiencies and rampant cost overruns are to be contained. Meta surveys of construction worker performance disclose that on average, nearly 50 percent of all labor time on a project is wasted through various inefficiencies. The cost of this lost effort totals more than \$120 billion annually!

Most construction contracts are intended to be a fixed price for a given set of "final" construction documents, with the price set either through bidding or negotiation. Guaranteed maximum price (GMP) contracts, which are often based on 70–85 percent complete construction documents, constitute a large segment of industry-wide practice. The balance is comprised of various open-ended arrangements (e.g. time and materials, cost plus fee, unit cost plus fee) not subject to any price cap. If owners were to avoid the use of the open-ended arrangements, and of vaguely worded "fixed-price" and GMP contracts, which allow unchecked cost increases after the contract is executed, the construction industry would be forced to quickly improve.

Most owners do not realize that after the agreement is signed and construction begins, the contractor effectively becomes a monopolist—and behaves accordingly. A recent study notes that contractors have little motivation to control costs. The higher the construction costs, the greater the contractor's general conditions, insurance, and profit, since these items are typically billed as a percentage of the construction cost. While agreements allowing mutable (i.e., changeable) costs may be appropriate for complex projects entailing a high degree of uncertainty, economists have demonstrated that fixed-price contracts are superior for most projects and can benefit all parties.

Why There Is No Such Thing as a Fixed Price

When a general contractor signs a contract for a fixed price (or lump sum), he guarantees that he will provide and build every item shown on the contract bid documents within a specified time for a specified price. Accepting such a contract is seen by contractors as risky business. To construct a building the contractor must ensure that thousands of different pieces of material shown on the drawings are timely procured. He must schedule, supervise, and coordinate the daily work of dozens of suppliers, subcontractors, fabricators, and general work staff, most of which may have never worked together before. If a subcontractor fails to perform as prescribed, the contractor must step into the breach, secure another subcontractor willing to complete the defaulting subcontractor's work, and assume any cost increases charged by the completing subcontractor. Because contractors must coordinate with dozens of other "mom-and-pop" shops, they are extremely reluctant to assume all the risks of building. It is inherent in the negotiations and proposals submitted by contractors that owners who initiate the projects should bear the majority of the risks on the project. But why should this be the case when vendors in other industries typically accept such risks for every major product we buy as consumers?

The preponderance of fragmented, small construction firms further contributes to the contractor's avoidance of risk. Small firms dominate the industry. Of all contractors, 90 percent employ fewer than 20 people. There are 7.6 million individuals in the construction industry employed in more than 1.1 million firms. The economic realities facing these mom-and-pop shops and most owners' low-price mentality force contractors to adopt a strategy to win the job with a low bid (that often is not intended to result in a profit, often a loss) in order to win the opportunity to submit change orders where profits can hopefully be made.

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Eliminate Contractor Opportunities for Increasing Costs After Work Has Begun

The owner's primary goal should be to execute agreements with all team members to secure a fair (fixed) price while enabling the contractor to secure a fair profit for performing the work specified on the contract documents. Securing a true fixed-price contract for a project will require the architect and engineer to deliver a set of construction documents for bidding that are fully detailed, complete, and coordinated in all respects. Owners often assume, incorrectly, that bid drawings are the same as 100 percent complete construction documents. But often awards are made and construction starts before the construction documents are fully complete.

Information added to complete the construction documents after the contractor is awarded the job often leads to noncompetitively-bid change-order work and possible delays. To the extent that those traditional postaward changes can be made preaward, everyone will be better off. But given their inevitability, it is essential that construction contracts anticipate construction document errors and omissions and provide a framework to ensure that any resulting change orders are reasonably priced and are not used to gouge owners, who are rendered virtually powerless due to the contractor's superior information and market power once construction begins. Standard industry-generated agreements, which are currently slanted steeply in favor of contractors, must create a level playing field.

To accomplish this, the agreement with the architect—who will likely enter into separate agreements with each of the engineers—must contain language such as the following:

The Architect agrees that an essential part of its services is to provide a fully detailed set of construction documents to enable the Owner to secure a fixed-price contract from the selected contractor. To assist the Owner in accomplishing this objective, the Architect agrees to provide for bid issue 100 percent complete construction documents that have been fully coordinated with each of the engineers and other designers on the project.

The owner may find it well worth the additional few extra weeks and compensation the architect requires to finalize 100 percent complete documents, especially when compared to the potential 20–30 percent hidden premium contractors include in most change orders. A constructability review by the construction manager (CM) or an independent consultant to the owner prior to issuing the bid drawings will assist in addressing any errors and omissions before they impact the GMP and schedule or lead to large claims.

Once this provision is in place, the next objective is to ensure that a corollary provision in the CM or contractor agreement provides the following:

The Construction Manager (or Contractor) has been provided full opportunity to review the construction documents and field conditions so as to ensure that it fully understands the design intent shown and that all elements for construction shown thereon have been included in the contract price. It is agreed that the contract price includes all necessary work, labor, and material expressly or impliedly required for the project. The Construction Manager (or Contractor), agrees to waive any claim for extra cost or delay related to any error or omission in the construction documents that reasonably should have been observed prior to commencing work on the project.

By including this provision, the owner protects himself against price creep. Only legitimate additions to the project (e.g., the owner's decision to add a new floor or additional lighting not part of the approved base scope work) will add cost to the project. The CM or contractor should also be required by the contract to submit a buyout schedule to the owner, along with subsequent proof that all the project's materials and trades were bought in a timely fashion. This provision should extend to subcontractors as well. Costs need to be locked in as close to the contract award date as possible to avoid material and labor escalation affecting the project cost.

A second important way to ensure a fixed-price contract is by resisting efforts to "fast track" the project. "Time is money" and other arguments for commencing construction prior to design completion are well known, but owners must beware that risk rises rapidly using fast tracking. By agreeing to a fast-track process, the owner gives up cost and schedule control to the CM, who often bears little risk if the budget is exceeded or the project encounters serious delays. Under fast track, no CM can or will provide realistic assurances

that the initial proposed project budget or preliminary GMP will be finalized into a GMP of the same amount, let alone entail savings. Further, they explain that they have no control over the material marketplace or the cost of labor. Moreover, since fast-track construction commences before the project design is finalized, the owner effectively loses the opportunity to rebid the project if the final GMP prepared by the CM far exceeds the owner's budget. Reducing scope at that point will likely have an enormous ripple effect and impact the schedule, negating any advantage the fast-track process might have yielded.

A frank discussion of project risks and how to equitably allocate them between parties is critical for success. The contractor benefits by being allowed to put a cost on its most commonly encountered project risks. The owner benefits by locking the contractor in to a true, fixed price at only a slight premium to what it might pay in other "fixed" arrangements.

How Do We Know This Works?

Our firm's clients have avoided these problems by using fixed-price contracts, or what we call "Equitable Risk Allocation Agreements." Given the opportunity to bid from 100 percent complete and coordinated drawings, the construction industry can be assured of avoiding the unnecessary change order game. More importantly, they can rest assured that if they bid properly they will make a profit if performing the work called for according to the project schedule.

Under these agreements, the contractor or CM who cannot provide accurate estimates will be forced to eat any cost overruns instead of passing them on to owners via change orders. Suddenly, to increase profits and productivity and further dilute risk, it will make sense for contractors to introduce more efficient equipment and procedures, innovative materials, and the latest training and technology to keep costs down. When this happens, as it has in many other industries, a shakeout will occur. For perhaps the first time in the industry's history, inefficient construction firms will be forced out and won't be easily replaced by equally inefficient firms the next day. Efficient firms will find themselves operating more like a corporate business. They will profit and grow. And soon, they will find that they can acquire competitors rather than suffer them.

Construction Agreement Types

- 60 percent are nominally fixed price for a given set of "final" construction documents
- 20 percent are GMP contracts, which often are based on only 75–85 percent complete construction documents
- 20 percent are various open-ended agreements (e.g. time and materials, cost plus fee, fees based on unit costs)

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Endeavor

Reaching the Top of Your Mountain

by R.A. Molldrem, Assoc. AIA

As a young architect I often meet challenges and defeat, inspiration and uncertainty, knowledge and confusion, sometimes all within the same day. Such are the woes of an emerging professional. However, not easily discouraged, it has become my endeavor to increase my palette of ideas and understanding so that I may design truly harmonious environments, and through transmission of these ideas and advocacy of my profession, make it the same endeavor for the society in which we live.

Endeavor

In the movie *Jeremiah Johnson*, Robert Redford as Jeremiah heads his way into the Colorado Rockies. No longer feeling connected with the rest of society, in fact, wishing to get away from it, he makes a determined effort to become a mountain man. In the process he does his best to teach himself to survive. He does this however seemingly with limited success by trying to catch fish with his hands and hunting rabbit and small game with his less-than-great rifle. In one particular scene he is traversing through the snowy landscape and is ordered to halt by a character named Bear Claw, for trespassing and scaring his hunt. Once Jeremiah is approached and friendliness surmounts, Bear Claw asks him if he can skin animals, to which Jeremiah replies "If you can kill it, I can skin it," and Bear Claw answers, "Cocky, for a starvin' pilgrim."

Young architects are like starving pilgrims. We are no longer connected with academia upon our graduation, not yet full-fledged architects able to survive the architecture business on our own. Each of us, with exaggerated confidence or not, want badly to be able to comprehensively solve architectural riddles. Whether it is computer-aided design (CAD) details, client relationships, staffing, pay request reviews, or up-and-coming technology to do all of this, we want to know why, how, and the best way to do architecture. This is the source of my interest in Practice Management. This is part of my endeavor.

Palette

With thoughts of the soon-approaching Architect Registration Examination (ARE), I often ask myself what sort of architect I will become. While in school, my list included typologies and areas of specialization such as historic preservation, New Modernism, residential architecture, and sustainability. Having more experience, my list has blurred and refocused to include theories and ideas of what an architect does rather than type: interpret ideas, envision, inspire, solve problems, develop relationships, study, do research, instruct, and lead. Being a young architect, I hope to become the person who is able to develop such a palette of abilities.

We are not all so lucky to have a Bear Claw type as mentor to aid in the development of our individual palettes. This is why specific conferences such as [The Future of Professional Practice](#) are important. Attendance at this particular conference is important to me because it is *for me and about me*. I am part of the future of professional practice. Part of the problem with the shortage of qualified professionals is the assumption that our individual palettes are already developed upon graduation. Imagine if 50, 100, or more individuals with the same level of education and experience as me attended this conference. My generation is edging on becoming the next project manager, the next project architect, the qualified professional so seemingly hard to come by. I ask why wait for licensure or tenure into the profession to learn such information as will be divulged at the upcoming Practice Management Conference?

When I became a Leadership in Energy and Environmental Design® (LEED) Accredited Professional (AP), I enhanced my knowledge base regarding project design and sustainability tenfold. Rather than wait until I design a LEED-

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certified building and learning as I go for the process, I now better understand sustainable methods and terminology. This knowledge I am able to apply to all projects, not just LEED-specific ones. As an Associate AIA member in North Dakota, I am one of the youngest of the few who have LEED AP designation. While an employee at a small local firm, and upon passing my LEED AP test, I played a major role in successfully completing the documentation and submittal for a recently awarded LEED-certified project. It is the first such project in the state of North Dakota. Since then I have given several presentations about the LEED process and how to become a LEED AP, and have recently been requested to give another presentation at one of our consultant engineering firms.

Taking the initiative to become a LEED AP proved to me that my endeavor to become the architect with a palette of abilities is not out of reach. The success I saw afterwards inspired me to do more. Remember Jeremiah, the "starvin' pilgrim"? As starving architects, a friend and I began a local chapter of **Architecture for Humanity** (AFH). We follow the theories and beliefs set by Cameron Sinclair and his associates in this internationally recognized nonprofit organization. Our chapter, AFH-ND, focuses on designing for social change at a local level. With several projects (ranging from programming studies to schematic design to retrofits and additions) for local nonprofits completed, we have both found possibility and satisfaction in our chosen careers as architects.

It is my belief that my attendance at The Future of Professional Practice conference can enhance my career and my profession through presentation and advocacy, in the same manner as my initiative to become a LEED AP and cofound a local AFH chapter. I can with enthusiasm and excitement imagine the great benefit attending this conference will have on AFH-ND's continuing development and efforts.

Transmission

Through my good fortune to attend The Future of Professional Practice conference this coming December by scholarship, I will have several opportunities to transmit to my peers what I will learn. As an Assoc. AIA member of AIA North Dakota, I will have the opportunity to write an article for AIA North Dakota's magazine, to be published in the spring. This publication is distributed to an audience including AIA North Dakota members, allied members, local governments, and school districts. There is also a local chapter of the Young Architects Forum (YAF), of which I am a member. YAF acts as a source of information for area students, interns, and young and established architects through meetings, workshops, lectures, and tours. YAF provides the possibility for me to give presentations to the above-mentioned groups. Also, the 20+-member firm with which I am currently employed has regular monthly meetings and committee presentations of various sorts. We have four offices, all connectable via video and telephone conferencing, enabling me to report on my conference attendance. And this doesn't include word-of-mouth communication with my peers and AFH-ND members.

Advocacy

Having the opportunity to attend the Future of Professional Practice conference will whole-heartedly make me an advocate of the Practice Management Knowledge Community (PMKC), the AIA, and my profession. The success the PMKC and the AIA will be able to claim will be the dispersing of knowledge to yet another young architect, and through me several more like me. Emerging professionals like myself, on an endeavor to be a successful architect who envisions, inspires, teaches, and leads, after attending this specific conference, and who will become one of the qualified professionals our practice is looking for and needs for a viable future. At the end of the conference, PMKC would be like Bear Claw, offering quick tips and subtly saying "Watch your top knot," to which I, like Jeremiah, would reply, "Watch your'n."

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A Young Professional Anticipates The Future of Professional Practice

by Melanie Hall, Assoc. AIA

My name is Melanie Hall, and I have recently joined the AIA as an associate member. I am currently working at DSA Architects in Berkley, Mich., where we specialize in educational architecture. A five-year veteran of architectural firms, I am in the process of taking my Architectural Registration Exams (AREs) and expect to complete them within the next year. As a young professional, I am exploring the vast world of the architectural business and have gained a variety of experiences from initial programming through construction administration.

Early in my professional development, my idea of an architect was more limited in scope than it is today. When I first started on my career path, I had considered an architect to be a designer of a building. It was not until I joined DSA Architects that my ideas started to broaden, and I began to realize the importance of other roles that exist in the field of architecture. Roles such as project manager, project architect, and project designer now have a significant impact on my training as I achieve more complex project goals. My organizational skills, leadership abilities, and commitment to business standards were key factors in my recruitment, and have set me on the path of project management. In the past year, I've realized that project management is one of the most important responsibilities in the architecture business. Beyond the design of a building, a successful project involves the development of a strategic plan, the scheduling of milestones, and deadlines, the cascade of communication across the entire team, and most importantly, the management and development of client relationships.

As an intern architect, I am eager to digest and experience everything associated with the project manager role. The December 2007 **The Future of Professional Practice** conference is an opportunity for me to gain outstanding knowledge that will benefit me and DSA Architects, which in turn will help generate new business. Receiving a scholarship to aid my attendance is an honor and an achievement that will make me highly valuable to my employer.

I would appreciate the opportunity to meet respected role models and hear first-hand accounts of real project management experiences and everyday challenges. Listening, interacting, and communicating with fellow architects and project managers would strengthen my capabilities and provide the tools I need to fulfill my goal of becoming a project manager. Having experience working with others in a "studio" office environment, I also will take an active role in group discussions at the conference and offer my own ideas about the broad field on architecture. As a young professional, I bring a positive energy and an eagerness to learn. My enthusiasm makes me approachable and able to create dynamic collaboration among peers.

By attending this conference, I will bring back knowledge to pass on to my fellow colleagues. DSA Architects project managers hold biweekly meetings to discuss planning, project development, and business strategies. I will host one of these meetings and share my observations and suggestions. I will also host a lunch-n-learn to educate the entire office, of 80 people. Additionally, I will speak directly to fellow aspiring project managers in the office and continue to inform and educate. Not only will I benefit by attending this conference, but both the Practice Management Knowledge Community (PMKC) and the AIA will benefit from my active role as a future member. I am eager to be involved with an organization that strives to be dynamic and evolving. As a contributing member of PMKC and AIA, I look forward to collaborating nationally with other project managers and continue to share this knowledge with my peers at DSA Architects!

Thank you for your time and consideration.

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