



Practice Management Digest

News & Best Practices from the PM Knowledge Community

Print this page | Email this page

Features

An Architect's Little Helper: The Billable Ratio

by Douglas Robertson, AIA

Every business has one or two essential metrics it has to calculate correctly just to stay in business. Many additional measures will be particular to your firm or market but, in the architecture trade, one figure you have to get right is the billable ratio. Every firm that has managed to stay profitable and, hence, in business has an innate understanding of this measure. Likewise, anyone who has ever been surprised at going out of business has either forgotten or never learned how to calculate and use this deceptively simple metric.

So how do you determine the billable ratio? Tally up your direct labor costs and divide it by your total labor costs. If your sum is more than .65, your firm should survive. If your sum is less than that, you may soon have some uncomfortable conversations with the bank.

Why is the billable ratio important? Good times never last forever. The firms that survive the next downturn will have one thing in common: they watched their billable ratio as the work slowed down. Watching this metric alone will not keep your firm afloat, but ignoring it will certainly sink you.

> [Read the full article](#)

Electronic Age Creates a Need for Info Management

by John P. Sieminski, Esq.

The world is going digital and the business world is no exception. It is estimated that more than 90 percent of new information is created on an electronic device in digital form. As such, the move to doing business electronically has created some unique and significant liabilities for architecture firms and other business organizations of all sizes.

- In *Zubulake v. UBS Warburg*, the plaintiff was awarded \$9.1 million because UBS Warburg failed to preserve all the e-mails that might have been relevant to the plaintiff's claim
- In *Coleman v. Morgan Stanley*, not only did a state court award the plaintiff \$604.3 million in compensatory damages, the jury added \$850 million in punitive damages to its verdict because Morgan Stanley did not reveal all of its pertinent e-mails to the court

How are these cases relevant to architects, engineers, contractors, and other participants in the design and construction industries? Courts are requiring firms and other organizations to keep many of their documents, paper and electronic, for certain mandated time periods. Given the sometimes adverse and litigious nature of design and construction projects, design and construction firms should have policies in place to prevent the destruction of information, whether it is electronic or paper, that may be relevant to a dispute.

It is, thus, imperative that architecture firms, whether large or small, develop an information management policy. The cost of preparing a defensible information management policy can often be dwarfed by the consequences of failing to have one.

> [Read the full article](#)

Program from WWII America Trains Project Staff

by Cliff Moser, AIA

Effectively training project staff and sustaining as well as capturing and diffusing that training is difficult within any firm. Yet a forgotten program from WWII America helped RTKL Associates Inc. train a hospital construction administration project team. How did the firm do it? It studied the Training

Fall 2006

In This Issue

- > [An Architect's Little Helper](#)
- > [Electronic Age Creates a Need for Info Management](#)
- > [Program from WWII America Trains Project Staff](#)
- > [Digital Records Preserve Architectural Heritage](#)

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

Within Industry (TWI) program which helped revive the economic forces of many war-torn countries, especially Japan, in the 1940s.

The original WWII TWI trainers built the program based on a “five needs knowledge model”:

- Knowledge of the work: information that makes one business different from other businesses
- Knowledge of the responsibilities: the company’s policies, regulations, rules, and organizational requirements
- Skill in instructing: helping supervisors develop a well-trained workforce (“If the worker hasn’t learned, the trainer hasn’t taught”)
- Skill in improving methods: requiring trainers (supervisors) to identify and list each task breakdown so the trainer and learner can identify areas for improvement
- Skill in leading: helping the trainer improve his/her ability to work with staff.

By implementing its own version of TWI, which RTKL Associates calls Project Staff Training (PST), the firm was able to instruct its site-based staff team for the hospital project quicker and more productively, as well as help them become a meaningful part of creating and improving systems and creating a learned and transferable skillset. True to the original TWI philosophy, the team went on to become mentors in the transfer and improvement of those processes to other internal teams and projects, as well as client, contractor, and agency teams.

> [Read the full article](#)

Digital Records Preserve Architectural Heritage

by Alison Langmead, PhD

Beginning a digital records management program does not have to be expensive, nor does it have to be implemented in a giant, sweeping gesture that fundamentally changes the existing design workflow. What is important is to begin thinking about the future of your digital project records right now. Whether you are a sole practitioner or a project manager working in a large firm, here are a few ways to begin:

- Identify, arrange, and collect the digital files that serve as record documentation for your project
- Store these digital records in an accessible, relatively prominent place
- Keep in mind that the best practices for digital records management are still emergent

As digital architectural records become even more powerful and intricate, project managers will need to have even greater control over the location and description of their documentation in order to ensure efficient access to accurate information, both during the design process and over time. Such needs should eventually lead to a broader, more complete system of digital records management. However, do not wait until you can implement such a system to begin tending to your digital records. Start small and allow your digital recordkeeping system to grow with your needs.

> [Read the full article](#)

News

Fall PMKC Conference Planned for Shreveport

Plan now to attend the fall Practice Management Knowledge Community fall conference September 13–16 in Shreveport, La. The AIA Practice Management Knowledge Community and AIA Louisiana are cohosting the joint 2006 AIA Louisiana Design Conference and PMKC Fall Conference on Project Delivery. Join your colleagues and industry leaders for this fun and stimulating conference as you enjoy Louisiana’s famed hospitality, Cajun cuisine, and lively music.

Attendees will participate in discussions, exercise, and other activities designed to enhance personal leadership and the skills required to achieve technical goals and objectives. All core elements of technical practice will be

addressed to provide a comprehensive review of requirements for achieving a successful project delivery. Among the featured practice management topics are

- Construction Drawings: New Solutions to Old Problems
- BIM for Dummies
- How to Train Inexperienced Project Staff and Retain and Transfer That Knowledge
- Establish, Maintain, and Control, an intensive contract administration training session
- Managing Client Expectations
- Controlling Risk Through Effective Communication
- Risk Management, a town hall discussion
- Project Delivery Problems, Pitfalls and Predicaments
- Quality in Documentation: The Fine Line Between Too Much and Not Enough
- Facilitating Chaos: Managing Meetings Strategically

For conference details and registration information, visit the [Practice Management conference Web site](#) or contact [AIA Practice Management](#). Take away solutions that can be applied to your projects and shared with the members of your firm as you get AIA/CES learning units, including valuable HSW credits.

Resources

Conference Scholarships Awarded to Two Recipients

AIA Practice Management offered two scholarships for young professionals to attend this year's fall conference, Project Delivery Skills Superconference: New Solutions to Old Problems. Two recipients were selected: Jennifer Selvik, Assoc. AIA, of Martenson and Eisele Inc. in Menasha, Wis., and Stuart Shell, Assoc. AIA, of RDG Planning and Design in Omaha. To fulfill part of the requirements for the scholarship, applicants had to submit an essay stating their interest in practice management and how they would apply the knowledge gained from the conference. We feature here the two selected essays.

- > [Essay by Jennifer Selvik, Assoc. AIA](#)
- > [Essay by Stuart Shell, Assoc. AIA](#)



Practice Management Digest

News & Best Practices from the PM Knowledge Community

Print this page | Email this page

An Architect's Little Helper

The Billable Ratio

Douglas Robertson, AIA

Watching your billable ratio can help keep your firm afloat

So you've moved out of the garage, rented a small office, and even hired a few employees. It's 8 p.m. and you're about to wrap up your day job as architect and start your night job as small business person. Someone has to pay the Sparklett's man and the rent and send the invoices. And at some point, you need to figure out if you should hire that super smart kid you talked to today or if you need to tell your staff they should probably start getting their resumes in order. If you're wishing you hadn't slept through that professional practice class, don't worry. They didn't tell you about any of this stuff anyway.

Every business has one or two "essential metrics" that a company has to get right just to stay in business. Many additional measures will be particular to your firm or market. But in the architecture trade, one figure you have to get right is the billable ratio. Every firm that has managed to stay profitable and, hence, stay in business, has an innate understanding of this measure. Likewise, anyone who has ever been surprised at going out of business has either forgotten or never learned how to calculate and use this deceptively simple metric.

Calculating the Ratio

So how do you calculate your billable ratio? Tally up your direct labor costs and divide the sum by your total labor cost. If your sum is more than .65, your firm should be okay. If your sum is less than that, you may soon have some uncomfortable conversations with the bank.

The simplest way to do your tally is to add all the payroll expenses that appear when an employee is added and disappear eventually when one leaves for whatever reason. So, for example, health insurance premiums, vacation days, and payroll taxes all track closely to employees. Office space, telephones, and utilities have a bigger time lag and are better considered separately as a different type of overhead expense.

Your direct labor cost is the number of hours, and their cost, you were actually able to bill for. Some things you cannot count in this ratio: unpaid work (like competitions, pro bono work, and contingent projects that do not pan out). To gain a realistic sum, it is most important you do not fudge the numbers here.

Here's a practical example. Let's say we have a startup firm consisting of two principals, two recent graduates, and a receptionist. First, collect the time cards you've been completing every week. For each person in the firm, add up a quick "running total" of billable and nonbillable hours. Don't fudge this; you're not going to share this information with anyone, and you don't want to inadvertently fool yourself. Once you've done this, you'll know three things: the total amount of actual hours you've paid for (A), how many hours you've been paid for (B), and how many hours you've paid for out of your own pocket, that you were not able to sell to a client (this is too depressing to give a variable name to). Now divide: B/A. Your sum should be somewhere between .65 and 1. The closer to 1 the better, of course.

This is your billable ratio in terms of hours. It should also be pretty close to your billable ratio in terms of dollars as well. If you want to check, you can repeat the steps you took for the firm as a whole for each employee and partner individually (i.e., see how much each person cost in terms of billable and nonbillable hours). Then, add up the "billable dollars" and divide by the total. If you go this route, don't forget to include direct payroll expenses like worker's comp or any local payroll taxes that may not show up on your

Winter 2009

In This Issue

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

monthly payroll report.

Why You Should Care

Good times never last forever. The firms that survive the next downturn will have many differences and one thing in common: they watched their billable ratio as the work slowed down. Finally, this measure is the place where the financial and project-related management aspects of architecture most clearly intersect.

How? First, you have to recognize that in the design business, there's always plenty of work. That's easy. The hard part is getting, and then focusing on the work that you can actually get paid for. If you watch this number on a "trend" basis, it will quickly tell you that you really are busy doing paid work (if the number trends down) or you're spending too much time on nonproductive tasks (e.g., uncompensated competitions). Second, payroll costs are going to be by far your biggest expense. If you have a good sense of your billable ratio, you can come up with your real overhead number when you're proposing a project.

It may not be desirable to think with a low-bid mentality, but let's face it: economics is part of the equation in winning and losing a commission.

Douglas Robertson, AIA, is principal of House and Robertson Architects Inc. in Los Angeles.





Practice Management Digest

News & Best Practices from the PM Knowledge Community

Print this page | Email this page

Electronic Age Creates a Need for Info Management

John P. Sieminski, Esq.

Whether it's a large or small firm, the multimillion dollar liabilities incurred from the lack of an information management policy can have a catastrophic effect on the firm's bottom line

The world is going digital and the business world is no exception. It is estimated that more than 90 percent of new information is created on an electronic device in digital form. Of that electronic information, it is also estimated that approximately 30 percent is created, used, maintained, stored, or destroyed without ever being printed to paper.

The construction industry is no exception to this trend. The industry has embraced the use and exchange of information that, 50 years ago, would invariably have been created and used in the traditional form of paper drawings, specifications, letters, memos, and other traditional forms. Of the different forms of digital information, electronic mail has achieved particular prominence and deserves special attention. In addition, the sheer volume of information created in business and nonbusiness settings is staggering. Researchers at the University of California at Berkeley estimated, for the year 2003, that five exabytes of new information were created and that the amount of new information is growing each year (one exabyte is 1,000,000,000,000,000,000 bytes).

Recent Cases Involving Electronic Documents

The move to doing business electronically has created interesting twists on traditional exposures and has created unique and significant liabilities for business organizations of all sizes. Courts are extending common law duties requiring the retention of information relevant to ongoing (or reasonably anticipated) litigation to information in electronic form. Applying the doctrine of "spoliation," courts across the country have consistently imposed sanctions on businesses that have failed to have their electronic information houses in order. The dollar value of the sanctions has often been enormous.

In perhaps the most-cited case, *Zubulake v. UBS Warburg*, a federal district court jury in New York awarded the plaintiff, Laura Zubulake \$9.1 million in an employment discrimination matter. In what most observers agree would have been a routine employment case, the parties became embroiled in a protracted dispute about electronic data, mostly e-mails, that became critical to the result. The presiding judge issued a series of opinions that set forth some guiding principles in what has become known as "electronic discovery." In essence, the electronic discovery dispute centered on an allegation by the plaintiff, Zubulake, that certain e-mail communications by her managers contained evidence of the gender bias that she sought to establish as her primary claim.

After extensive discovery proceedings involving the existence and location of the allegedly discriminatory e-mails, it became apparent to the court that UBS Warburg had failed to diligently seek and ensure the preservation of all of the e-mail communications that might be relevant to Ms. Zubulake's claim. Upon review of the haphazard manner in which UBS Warburg approached the discovery process, the court determined that UBS Warburg had not properly instituted and enforced a "litigation hold" preventing the destruction of potentially relevant electronic material. As a sanction, the court gave an adverse inference instruction to the jury, essentially advising it of UBS Warburg's electronic discovery transgressions and allowing the jury to assume that, had the relevant e-mails been produced, they would have impacted negatively on UBS Warburg's defenses.

More recently, the case of *Coleman v. Morgan Stanley* garnered considerable attention by the business and even the popular press. Financier Ron Perelman sued Morgan Stanley for fraud in connection with his sale of stock in Coleman to Sunbeam. A state court in Florida awarded Perelman \$604.3 million in

Winter 2009

In This Issue

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

compensatory damages. More remarkably, however, the jury added \$850 million in punitive damages to its verdict upon a finding that Morgan Stanley had not engaged in the electronic discovery process in good faith. This portion of the verdict was based primarily on a certification by Morgan Stanley that all relevant electronic information had been produced, when, in fact, a subsequent and significant volume of information was later discovered.

The litigation hold requirement is not applicable to just the financial or public sectors and has been applied to enterprises across the business spectrum. Any organization that anticipates or reasonably should anticipate litigation is required to take reasonable measures to preclude the destruction or disposal of electronic information that may be relevant to the matter.

Practical Effect on the Construction Industry

Of what relevance are these cases to architects, engineers, contractors, and other participants in the construction industry? Courts are imposing "litigation hold" duties on organizations that in are involved in, or who reasonably anticipate, litigation, regulatory investigations, or valid third-party requests for information such as subpoenas requiring the production of documents. In respect of the sometimes adverse and litigious nature of construction projects, construction industry participants should have policies in place to prevent the destruction of information, whether it is electronic or paper, that may be relevant to a dispute.

On the other end of the preservation-destruction continuum, the proliferation of information of all types presents challenges in the management, storage, and ultimate destruction of documents, both electronic and paper. There are good business reasons, recognized by courts, for regular identification and destruction or disposal of information that no longer serves a useful business purpose. The U.S. Supreme Court, in a case involving the demise of the Arthur Andersen accounting firm, recently recognized the validity of disposal of information pursuant to an appropriate document retention policy.

A corollary issue that arises in the absence of appropriate destruction pursuant to a defensible information management policy is the lost revenue associated with the time it takes, in both litigation and business settings, to handle information that could have been disposed of or destroyed. As anyone who has been involved in the discovery process in almost any construction-related dispute can attest, the soft cost of combing the project record for documents that a party is required to produce, or which may affirmatively be used by a party to assert its claims or defenses, is considerable. Given that, for example, the material on a half-full 40-gigabyte hard drive, when printed to paper, might fill a file cabinet, it becomes apparent that document retention policies must be applied with equal vigor to both paper and electronic documents.

Electronic Mail: A Special Form of Electronic Document

E-mail is a form of electronic information that bears special scrutiny. It is estimated that more than 80 percent of all business correspondence now takes the form of electronic mail. Like other forms of electronic documents, there are significant differences between e-mail and traditional paper that pose particular challenges. The speed with which e-mail can be sent and forwarded to hundreds or even thousands of recipients makes the process of printing paper correspondence, copying it, and stuffing it into envelopes to be deposited in a mail chute seem glacially slow in comparison. In addition, automatic copying and retention by electronic mail programs, ordinary backup procedures, and the retention habits of senders and recipients sometimes make the notion that any given e-mail message can be destroyed seem futile. Finally, like other forms of electronic documents, the digital information contained in e-mail is susceptible to being tampered with or changed by relatively unsophisticated users who have nefarious motives.

Another troublesome aspect of e-mail exists, too, that is not necessarily a function of the technology that produces it: a perception of informality associated with e-mail causes many users to include statements that they would never think to include in more formal correspondence such as memoranda or letters. Legal publications are replete with cases in which users of e-mail have sent messages containing clear and unequivocal evidence of negligent, criminal, or otherwise inappropriate behavior. Companies have also been exposed to civil liability as the providers of e-mail and other types of computer systems used inappropriately even though the use was clearly not related to the business carried out by the organization.

The Need for an Information Management Policy

The cases and concepts described above make it clear that it is incumbent

upon all businesses to manage the creation, use, and destruction of information in all forms. A comprehensive information management policy should include components setting forth the manner in which information may be created, obtained, and used (i.e., a content-driven acceptable use policy) and the manner in which it should be retained, stored, and ultimately deleted or destroyed (i.e., a document retention policy). Experience has taught that there is no "one size fits all" policy. Information use is industry-specific and organizations within the same industry use and maintain information in different ways. Policies must therefore be tailored to fit the requirements and culture of each business organization.

Architects and other design professionals, for example, may be required to retain design documents for certain statutorily mandated periods. It is incumbent upon contractors to retain documents pertaining to payroll and workers compensation coverage for appropriate periods. All businesses are subject to federal requirements pertaining to the retention of certain human resources documents. Additionally, all organizations must manage the enterprise-specific tension between the desire to retain relevant and useful information and the cost and waste associated with retaining large amounts of information that no longer serves any useful purpose.

Small organizations often believe that they are too small to be affected by these issues, but that is a short-sighted view. The multimillion dollar liabilities incurred by large organizations are easily scalable to smaller enterprises with a concomitantly less dollar value but similarly catastrophic effect on the bottom line. In addition, the cost of preparing a defensible information management policy can often be dwarfed by the consequences of failing to have one, a concept that also applies to organizations of all sizes. Finally, creation and adoption of a policy can constitute a complete waste of corporate time unless upper management supports the policy and it is regularly applied, enforced, and compliance is audited.

John P. Sieminski, Esq., is with the firm, Burns White & Hickton, in Pittsburgh.



Practice Management Digest

News & Best Practices from the PM Knowledge Community  Print this page |  Email this page

Program from WWII America Trains Project Staff

Cliff Moser, AIA

Training program from the 1940s sets the standard for training today's project staff

Effectively training project staff and sustaining as well as capturing and diffusing that training is difficult within any firm. Yet a forgotten program from World War II America helped RTKL Associates Inc. train a hospital construction administration project team.

Learning from WWII America

Training Within Industry (TWI) successfully trained thousands of inexperienced American workers between 1940 and 1945. After the war, TWI became the training program which helped revive the economic forces of many war-torn countries, including Germany, England, and especially Japan, enabling these economies to reinvent their industrial and manufacturing training programs. Because of its success in Japan, TWI is now known as the Roots of Lean, helping Toyota, and its TWI-trained staff, to become one of the largest and most successful organizations in the world today.

Most traditional architectural construction administration (CA) teams are built around one or several senior and experienced individuals, who pass on their tacit knowledge in addition to supporting the explicit organizational requirements of on-site construction conditions. In addition to a design firm's challenges of supporting this master with many helpers, most organizations find that these experienced masters really no longer exist, and that the support staff available for these types of projects is inexperienced and untrained in the requirements of the architectural construction.

RTKL Associates discovered TWI during its exploration of Lean. The firm worked with the [Lean Construction Institute](#) in developing lean systems oriented around construction services as well as developing standardized work and processes. However, its lean initiatives proved nonsustainable due to traditional apprenticed-based architecture and professional staff training and project-based work requirements.

How is TWI different than other training programs? RTKL Associates found that the original WWII TWI trainers built the program based on a "five needs knowledge model":

- Knowledge of the work: this is the information that makes one business different from other businesses
- Knowledge of the responsibilities: this is the company's policies, regulations, rules, and organizational requirements
- Skill in instructing: this resulted in helping supervisors develop a well-trained workforce, resulting in the motto, "If the worker hasn't learned, the trainer hasn't taught"
- Skill in improving methods: by requiring trainers (supervisors) to identify and list each task breakdown, the trainer and learner identify areas for improvement
- Skill in leading: this needs identification helped the trainer improve his/her ability to work with staff.

TWI then outlined its training on a three-part program of job instruction, job methods, and job relations. The philosophy of the program was based on "training within industry," that is, to train supervisors within the industry or organization so the newly trained staff can then train other members of the industry and organization. Examples for promoting TWI included the industry estimate that a skilled optical glass grinder required three years of apprenticeship before he/she could successfully turn out an acceptable product. The three-year apprenticeship training sounded similar enough to our industry's requirements, so RTKL Associates investigated further. It modified the three-part jobs program to task instruction, task methods and systems,

Winter 2009

In This Issue

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

and task improvement.

Task instruction stresses the understanding and teaches task breakdown requirements, including important steps, key points, and the reasons for the key points (see [Task Breakdown Sheet](#)). In developing task breakdown sheets for each task, the trainer had to think through each action and identify each task's step and reasons for each step before training a staff member in the task. The training consisted of four steps:

- Step 1. Preparation – help the learner think to aid comprehension of the new idea
- Step 2. Presentation – add the new idea to those already in the learner's mind
- Step 3. Application – train the learner to apply what was presented and check results
- Step 4. Testing – test the ability of the learner to apply the new idea alone.

Task methods and systems identified the relationship of individual tasks to other tasks and systems within the organization. Additionally, individual tasks, delineated through task instruction, were measured against the project's system requirements. For example, capturing RFIs for drawing changes were identified against the system requirements for creating change orders and for collecting information for creating quality metrics (see [Task Methods and Systems Sheet](#)).

Task improvement is the kaizen (Continuous Improvement) activity. Womack and Jones in their book, *Lean Thinking*, described the Toyota production system as a business model that achieved "more with less." Kaizen is an organizational improvement activity which continues the task instruction breakdown and improves every step in a process.

By implementing its version of TWI, which RTKL Associates calls Project Staff Training (PST), the firm was able to instruct its site-based staff team quicker and more productively, as well as help them become a meaningful part of creating and improving systems and creating a learned and transferable skillset. True to the original TWI philosophy, the team went on to become mentors in the transfer and improvement of those processes to other internal teams and projects, as well as client, contractor and agency teams.

Cliff Moser, AIA, is a principal of RTKL Associates Inc. in Los Angeles.



Practice Management Digest

News & Best Practices from the PM Knowledge Community

Print this page | Email this page

Digital Records Preserve Architectural Heritage

Alison Langmead, PhD

Responsible architectural recordkeeping will help maintain digital records for the life of a project and for the long term

Project managers keep records for multiple reasons. During design and construction, records take an active role in the communication and documentation of actions, transactions, and decisions. Once the project is complete, these records become a source of authentic evidence for those same actions, transactions, and decisions. For the near term, perhaps the next 15 years, this evidence will serve to certify legal accountability for the project and be an important resource for project managers to rely upon when making informed and effective decisions. For the much longer term, these records will serve as vital historical evidence for future generations of designers and scholars who wish to learn more about this country's architectural heritage.

Today increasingly more complex design work is done on the computer. As these digital models increase in complexity, it becomes harder to represent this work faithfully on a two-dimensional plot. Digital design tools no longer constitute a simple automation of the traditional hand-drafting process; they are allowing for the creation of virtual building environments in which the designer has the ability to run simulations, create virtual studies, and produce other digital transformations. While these new tools have served to create fabulously rich design experiences, their usefulness springs directly from their high level of digital intricacy. This intricacy, in turn, ties these records forever to their digital form. Because it is impossible to fully represent, for example, a full-motion sun study in a static two-dimensional format, authentic and complete records of the digital design process can no longer always take paper form. Therefore, the process of responsible architectural recordkeeping must put systems into place to maintain these digital records as digital records for both the active life of the project and for the long term.

Starting a Digital Records Management Program

Beginning a digital records management program does not have to be expensive, nor does it have to be implemented in a giant, sweeping gesture that fundamentally changes the existing design workflow. What is important is to begin thinking about the future of your digital project records right now. Whether you are a sole practitioner or a project manager working in a large firm, here are a few ways to begin:

Identify, arrange, and collect the digital files that serve as documentation for your project.

Give some thought to which of your computer files actually serve as evidence of the actions, transactions, and decisions of your projects. Remember to consider all the file components of any digital model or drawing, as well as any other administrative information that was produced in digital form, such as the databases that produce project records and any born-digital correspondence, especially e-mail. Just as digital drawings can contain more information than any one plot can reproduce, the original electronic version of an e-mail contains more information than is usually found in the printed copy. Over the last decade, the courts have recognized these differences to be significant (see [Electronic Age Creates a Need for Info Management](#) in this issue).

Store these digital records in an accessible, relatively prominent place.

Once you have identified your digital records, do not simply put them onto backup tapes, CDs, or DVDs that you send off site or put in the bottom of a drawer to be forgotten. For generations, it has been the best practice to squirrel paper records away in the coldest, darkest place possible to preserve them for the long term. However, digital records need to be stored in a place that is easily accessible on a regular basis, not only to facilitate testing of the storage medium to ensure that it is still readable, but also to make sure the

Winter 2009

In This Issue

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

stored files can still be opened by modern software and that users can still make sense of the information. Keeping these records on hard drives devoted solely to your digital archives is one good way to approach this problem. That said, moving a duplicate copy of your digital records off site for safe keeping remains a good idea. It is vital that you remember to look at all of these records—both on site and off site—every year and assess them for their viability.

Keep in mind that the best practices for digital records management are still emergent.

For the time being, it also is important to assess and reassess your complete approach to digital records management frequently—perhaps every two to three years. If, today, you can still open and use the digital drawing files created five years ago, you are on the right track. If, in 20 or 50 years, you are still able to open and use those files, you will have proof of an effective, continuous, and responsible digital records management program.

As digital architectural records become even more powerful and intricate, project managers will need to have even greater control over the location and description of their documentation in order to ensure efficient access to accurate information, both during the design process and over time. Such needs should eventually lead to a broader, more complete system of digital records management. However, do not wait until you can implement such a system to begin tending to your digital records. Start small and allow your digital recordkeeping system to grow with your needs.

Alison Langmead, PhD, is the archivist and records manager for Moore Ruble Yudell Architects and Planners in Santa Monica, Calif. She holds her doctorate in architectural history from Columbia University and is currently completing an MLIS with a specialization in archives and digital records management at UCLA's Graduate School of Education and Information Studies. This article was originally published in the April 2006 issue of DRI's monthly magazine, For the Defense.



Practice Management Digest

News & Best Practices from the PM Knowledge Community  Print this page |  Email this page

Scholarship Essay

by Jennifer Rose Selvik, Assoc. AIA

1. Why are you interested in Practice Management?

My interest in practice management was triggered several years ago when I spent two summers in my early years of college working in construction as a carpenter in training. Often working one-on-one with my foreman, I gained a better understanding of the construction process, as well as specific tasks such as framing walls, hanging gypsum board, and even stuffing insulation. Overall, the experience was irreplaceable. I walked away knowing how a building was put together, I could handle any amount of joking around thanks to an entertaining crew of guys, and I had the best "6-pack" abdomen I will probably ever have in my life. The experience that had the most lasting effect on me, however, was the negative attitudes construction workers and professionals generally had about architects. I will never forget how they complained about mistakes in the drawings, architect's changes, and a multitude of other things. It seemed they always had a smart remark for me when they inquired about my career plans, and then heard I was going to be an architect.

A couple years went by, and the time came for me to look for my first job in the field of architecture. I will never forget how unprepared I felt. I remember talking to one of my professors, telling her I wanted to move back to Wisconsin (from where I originate) and look for a job there, and she smartly replied, "Good luck." Here I was, with a Bachelor's degree in Architecture, and I had no idea what to expect in a job. The only reason I even knew what a set of blueprints looked like was from my construction experience. I knew all about design theories, architectural history, drawing techniques, etc., but I knew nothing about what really went on in an architectural office or how projects went from final design to bidding and construction. Even then I knew that I was missing key elements that were required to be a successful architect.

When I got my first job in an architectural office, I was lucky enough to work for very understanding professionals who eased me into the world of construction documents, specifications, shop drawings, RFI's, and construction bulletins. I did, however, encounter (and still do encounter) a similar negativity towards other professions, particularly the construction industry. I was rather surprised to find that many architects speak harshly about contractors and construction professionals, similarly complaining about document preparation, change orders, bidding, and the list goes on.

As I continue to gain indispensable experience in the field of architecture, I realize more and more that the barriers between the design and construction professions stem from poor management techniques. Practice management is essential to my success. I cannot and will not become a successful architect unless I can effectively manage a project from start to finish, including but not limited to, the delivery of quality documents, the employment of practical construction administration strategies, and the proactive management of risks.

2. How will attending this specific conference benefit your career?

This conference would be an extraordinary learning experience to help me develop my ability to carry out those tasks. In addition, as an emerging architect, I feel it is my responsibility to have a positive effect on the construction industry and to attempt to break down these barriers between the two industries, so that we may work together more effectively and efficiently, not only for our own objectives, but more importantly to better serve our clients.

3. How will you share the knowledge and information from the conference with

Winter 2009

In This Issue

Archive

- > Winter Issue
- > Fall 2009
- > Summer 2009
- > Recession Issue
- > Spring 2009
- > Fall 2008
- > Summer 2008
- > Spring 2008
- > Fall 2007
- > Summer 2007
- > Spring 2007
- > Winter 2006
- > Fall 2006
- > Summer 2006
- > Winter 2005/2006
- > Summer 2005
- > Spring 2005
- > Winter 2004
- > Fall 2004
- > Summer 2004
- > Spring 2004
- > Winter 2004
- > October 2003
- > August 2003

your peers?

In addition to orally reporting to my coworkers a summary of what I learn at the conference, I intend to incorporate the knowledge I gain into my work whenever possible. My company is currently going through a process of rethinking and redesigning our standards and methods of communication amongst other professions. I feel I can be especially helpful in this process. By benefiting my career and growing in my abilities, I can only add to the growth and abilities of my company. When I succeed, they succeed as well.

4. How will your attendance at the conference benefit the Practice Management Knowledge Community and the AIA?

By giving me a chance to attend this conference, which I would not otherwise be able to do, due to its location and financial implications, the PMKC and the AIA are helping me develop into a better representative of an architectural professional. They would be giving me the tools to become a better architect and leave a lasting, positive impression on the industry. I am part of the future of architecture, and my success will ultimately reflect back onto the PMKC and the AIA. When I succeed, they succeed as well!



Practice Management Digest

News & Best Practices from the PM Knowledge Community

Print this page | Email this page

Scholarship Essay

by *Stuart Shell, Assoc. AIA*

As a young professional I am eager to learn more about project delivery. I believe successful project management empowers architects to provide the highest level of service to both clients and the community. A command of practice management skills builds trust within the project team, bolsters the profession's image, and augments the civic environment with effective, high-quality buildings. Attention to the technical aspects of project delivery improves office efficiency by embracing new technology and aids in managing the litigious aspects of deliverables. A commitment to these outcomes aligns myself with the objectives of the Project Delivery Skills Superconference: to deliver successful projects through effective project management, the production of quality documents, practical construction administration strategies, and proactive risk management.

Successful firms understand their capacities and responsibilities with respect to the business community, the construction industry, and the legal system. Practice management is about crafting a project delivery structure to perform simultaneously in these variegated environments. To this end, the skilled practitioner relies on both experience in traditional paradigms and a grasp of new trends in project delivery. The model of a centralized, regional and capital-intensive firm is giving way to selforganizing business alliances that value their human assets and focus on developing vertical market segments. A basic goal in my career is to realize a balance between conventional, proven practices and those that are innovative and possibly better adapted to the market.

I am excited about this particular conference because its focus aligns with my personal goals and the purpose of my firm, the Renaissance Design Group (RDG). Our mission is to creatively influence life for the better through purpose-driven design. An awareness of new trends in business practice and project management is essential to following this mission. Accordingly, RDG's leadership is committed to bleeding-edge technology, benchmarking, information organization systems, and services that anticipate market trends. Familiarity with these management techniques positions me to be an active participant in this conference while realizing its maximum benefit.

At the Project Delivery Skills Superconference I will identify specific skills and methodologies that allow me to contribute to a healthy architectural practice. Experience in real-time practice sessions and case study sessions will provide a practical foundation from which to better understand risk management, construction document principles, and project management within the office. For example, in my everyday work I increasingly feel the need to make decisions that affect my firm's services and documents. However, I do not feel that I have amassed the background or informational resources to achieve optimal performance results. Interactive presentations speak to this need by providing a venue through which to address today's business environment, the changing role of architects with respect to specialized consultants, and how technology is transforming information management across the entire project team. Fluency in these various aspects of project management will give me confidence as I move into a position of greater responsibility.

Working to create a transformational learning culture, RDG looks a lot like the 'new' firm. Our practitioners set their own goals in an environment where over 65 percent of employees are stockholders. Each employee's personal strengths are listed for coworkers to view at his or her desk. These strengths, as identified through Gallup University's StrengthFinder courses, help to build teams that work well together. Beyond office culture, leadership at RDG has stayed in-tune with the

Winter 2009

In This Issue

Archive

- > [Winter Issue](#)
- > [Fall 2009](#)
- > [Summer 2009](#)
- > [Recession Issue](#)
- > [Spring 2009](#)
- > [Fall 2008](#)
- > [Summer 2008](#)
- > [Spring 2008](#)
- > [Fall 2007](#)
- > [Summer 2007](#)
- > [Spring 2007](#)
- > [Winter 2006](#)
- > [Fall 2006](#)
- > [Summer 2006](#)
- > [Winter 2005/2006](#)
- > [Summer 2005](#)
- > [Spring 2005](#)
- > [Winter 2004](#)
- > [Fall 2004](#)
- > [Summer 2004](#)
- > [Spring 2004](#)
- > [Winter 2004](#)
- > [October 2003](#)
- > [August 2003](#)

business world by participating in conferences held by the Advanced Management Institute for Architecture & Engineers; cofounding the Global Design Alliance, a network of design firms aligned to cooperate on projects; and sharing our experience through a Coxe Group research project which tracks ten selected design firms. By connecting with other enthusiastic practitioners at the superconference, I hope to carry on practices that motivate team members and shape a successful firm.

Effective teams understand the strengths of their members and share information to the greatest benefit. As a member in a workgroup structure I have seen how open dialog with peers and mentors helps advance project goals. I will share my experience from the Project Delivery Skills Superconference with team members and promote the services of the Project Management Knowledge Community. Skills and knowledge I attain through the conference will also empower me take an active part in shaping our services and deliverables at RDG. My commitment to the agenda of the PMKC will identify myself as an individual who takes seriously the excellence of the architectural profession. Ultimately, I aspire to be a knowledge resource for the diffuse project management issues that inevitably arise in the practice of architecture.

As I gain more experience and expertise, I am excited to contribute to professional societies such as the AIA and PMKC that strive to better the environment in which architects practice. By attending the Project Delivery Skills Superconference I will support the goals of the PMKC. As a participant, I will add value to the conference by seeking out information most important to growing my role at RDG. I am confident that my questions, conversations, and general participation will augment the atmosphere of hands-on learning. Charged with improving the quality of the profession and the business environment, the Practice Management Knowledge Community is an excellent resource by which I can develop my relationships within RDG and the profession as a whole.