



THE PROJECT MANAGEMENT STANDARD

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A FAST, EASY APPROACH TO RISK MANAGEMENT



Leif Hoglund has Bachelor and Master degrees in Engineering, with particular emphasis on measurement techniques applied to acoustical problems. He has been an industry analyst and consultant for the past seven years, concentrating on software issues for large service providers. He is currently a co-founder of Ibico, where he serves as VP Marketing and Business Development. He can be contacted at leif@ibico-cor.com.

Capital projects, as in construction, are very sensitive to schedule. Program managers know that schedule slips can shift projects into the red all too easily.

One way to gain early understanding of how a project schedule might behave is to apply something like PERT to the schedule, followed by a Monte Carlo simulation to develop a distribution function for meeting the intended milestone. In this approach, a basic required input for each task is the expected duration, a minimum duration and a maximum duration. For large projects, this is an unrealistic burden, but even more important - and seldom discussed - is the fact that the method is mathematically unsuitable when applied to one-off tasks where there is no knowledge of the expected distribution.

A new method, based on quantum probability, is introduced to define the quality of project plans in terms of probable success. Tasks and their duration are constructed as though made up of packet waves, where **all partial** waves are expected to be coherent at milestone dates.

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RISK MANAGEMENT CONTINUED

As shown in **Figure 1**, each task contributes to meeting a given milestone in a way that is directly related to its coherence. When planned tasks slip from their expected duration, they are said to be perturbed, and their contribution to milestones will change, thereby affecting the probability function of the planned milestone. The process of evaluating milestone probability as a result of task perturbations is at the core of the approach.

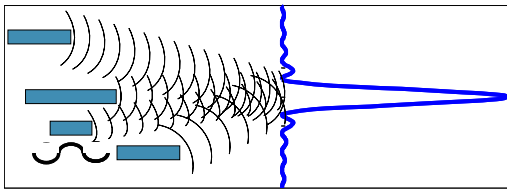


Figure 1: Human tasks modeled as waves

What is exciting about this radically different approach is that it *does not* require additional duration estimates to be made, but still calculates a milestone probability distribution. In fact, there is good reason to believe the analysis is *actually more accurate*. It is well known, for example, that for large or complex projects, there are always a substantial number of task dependencies. These overlapping highly interdependent tasks cause projects to generate huge—and largely unanticipated—volumes of coordination overhead that is entirely hidden from a project Gantt chart. It is not planned or even acknowledged, yet these interdependencies are a key cause of project coordination difficulties and schedule slips. Traditional project management approaches and tools focus only on direct work, which tend to reinforce overly optimistic estimates.

What makes this new approach potentially more accurate is that for large projects it is not individual tasks that lead to failure, *but overall poor project structure*, where dependencies dominate. This is exactly what is captured by the quantum method, and what is completely ignored using conventional tools.

Using quantum probability, *all* scheduled tasks are assumed to be uncertain, and all tasks are modeled to “interfere” with one another in the same way that physical wave structures might interfere with one another. Certain project structures can be “brittle” in the sense that even small slips will cause milestone slip, while other projects are “robust” in that they will tolerate large changes in task duration.

Using the fact that these quantum probability estimates are fast and easy to generate for any project, Project executives have an enhanced ability to predict project results, and have better control over project approval decisions based on quantifiable, predictive data. The method has been shown to return useful results for any project for 50+ tasks, but the larger the project, the more powerful and useful it will be.

Ibico (www.ibico-cor.com) has proprietary predictive software based on quantum probabilities, and offers a service where any project plan built using MS Project can be automatically analyzed. In less than 45 minutes, a number of reports are generated, which are aimed at executive, managerial and operational groups. These reports detail the probabilities for each milestone, and also include specific recommendations to improve the project. The cost is based on a subscription model, but is anticipated to be less than \$1000/per project plan.

LETTER FROM THE CHAIR

Robert (Robb) Gries, P.E., CCM, PMP – DPC SIG Chair

Teambuilding for the Next Challenge

It is another cold and rainy day here in the greater Seattle area, but I have just received another infusion of energy and ideas – not from an espresso at Starbucks – but from the recent PMI North American Leadership and Congress. This year, I was ecstatic to have an opportunity to finally meet face-to-face with Doug Kaiser, Andy Powers, and Wayne Baruch, and put a friendly face to voices and e-mails. I was also glad to see Ed Asci again; who I had the pleasure of meeting at last year's Leadership Meeting in Toronto, Ontario, Canada. All of us had a great time getting to know each other better, and I cannot emphasize enough how important this is for a virtual organization like ours to meet in person.

We have had a productive year, but the five of us wanted to develop a plan that would help both our current members as well as others that are interested in joining our challenging and rewarding industry. As such, we spent an intensive evening brainstorming ideas, and we believe that we have a solid, comprehensive plan for 2007 and beyond. Stay tuned for more exciting and specific details in the next newsletter.

I also had the great fortune of seeing Sherrill McDonald (Vice Chair Administration) again on Monday, 23 October. Sherrill flew up to Seattle for the day just to discuss the status of the Donald S. Barrie Award. Sherrill and I met with Jacque Kardon (PMI Global Operations Center) and Diane Fromm (PMI Education Foundation) and discussed the issues and concerns that we are jointly facing in promoting this special award. I am very pleased with the candor and professionalism of Jacque and Diane and I am pleased to report that Sherrill and I are working to resolve the issues before the next Global Congress North America.

On Monday evening, 23 October, we conducted our annual business meeting at Palomino's restaurant. The Board thought it would be better if we used the money that we would have spent on a meeting room at the Congress on a dinner for our members. More importantly, it would give our members an opportunity to relax and meet with some of the DPC Leadership. I even got the great opportunity to meet Ondiappan Arivazhagan "Ari" (Deputy Vice Chair Marketing) and some of our international members. The atmosphere was wonderful, the food delicious, and the conversation quite engaging – thanks to everyone who participated.

As a volunteer organization, we could always use more volunteers to help implement the many ideas we believe would benefit our members. Now, I'll be the first to admit that volunteering takes time and effort, and serving as a volunteer leader is an additional commitment. Time is a precious thing, and all of us would rather spend it with our families. Therefore, I would like to express my sincere gratitude to everyone on the DPC Leadership Team.



DPC Board members at the PMI Leadership Meeting in Seattle, Washington, USA (left to right): Doug Kaiser (Past Chair), Andy Powers (Vice Chair - Projects, First Vice Chair elect.) Wayne Baruch (Vice Chair Marketing), Ed Asci (Vice Chair Finance), Robb Gries (Chair).

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SIMPLYFING THE DEFINITION OF PROJECT MANAGEMENT

Doug Kaiser, PMP - DPC SIG Past Chair

Douglas J. Kaiser is the Past Chair of the DPC SIG. Mr. Kaiser has been a project manager in the design and construction industry in the United States for more than 20 years. He has experience as a project manager on commercial office, medical office, retail, warehousing, manufacturing, multi-family & single family residential facilities during his career. He also has experience in organizational management in the areas of recruiting & hiring, professional development, and operations management. He is currently employed as a Vice President of EXXCEL Project Management managing capital programs and projects for its strategic customers across the continental United States.

In the process of managing capital projects, today you find project managers everywhere! The design consultants have project managers, the owner has a project manager, the contractor has a project manager, and twenty subcontractors have project managers! This is not to mention the material suppliers and their suppliers. So what's the deal? Who is really the project manager? I think the best answer at this point is "It depends...."

The complexity of project management, on even simple capital projects, introduces multiple layers of resources at different levels of capability. For the owner, the project represents the creation of a more optimal environment in which they accomplish their business mission. On the other side, most of the project resources are contracted by the owner and they have no long term stake in the owner's business operations. For design consultants, contractors, subcontractors, sub-subcontractors, product distributors, fabricators, and manufacturers, the projects represent their livelihood. Adversarial relationships in capital projects are created through this very basic misalignment of project goals.

In capital projects, the title "Project Manager" is given by a particular resource to an individual who is expected to protect that resource's interest toward their own business mission. For contractors, this is not necessarily aligned with the owner's interest. Someone along the supply chain must manage the alignment; otherwise, the owner is almost guaranteed an adversarial relationship.

In colonial days, the housewright was expected to manage this alignment. The housewright was the designer, the builder, and often times the craftsman. There was not an American Institute of Housewrights that created standard delivery systems to help achieve the alignment. They just knew that the most important aspect of their job was to understand the owner's needs, make a promise to meet the needs, and execute!

Of course, back in those days, time was not as important of a factor as it is today. Nor was it as litigious of a society as we see today. But the point I am trying to make is that capital projects get successfully completed through making and keeping promises! In fact, I propose that the success of the project is entirely dependent upon the ability of the project team to align their promises with the owner's definition of a successful project. And so I conclude that the simple definition of the Project Manager is the "promise manager." All of the tools in the world can't keep promises, only people can.

When was the last time the *PMBOK*[®] kept a promise for you? Are you doing your part?

CURRENT USE OF PROJECT SPECIFIC WEB SITES IN MANAGING CONSTRUCTION PROJECT DELIVERY

Robert F. Cox, Professor, Building Construction Management, Purdue University

Abstract: The use of project specific web sites (PSWS) is growing in popularity due to the reported positive impacts and improvements experienced on construction projects. The newest PSWS applications boast open information access, archival capabilities, a project information continuum, and interoperability that provide a platform for more effective communications. PSWS technology is the most effective project management system available today when addressing the need to improve the overall construction delivery process.

1. INTRODUCTION

Managing information continues to be a critical success factor for construction operations. Given the highly complex, fast-paced, and dynamic nature of the construction process it has become evident that in order to complete a project that meets the needs of the customer, all project correspondence must be maintained in a fashion to support effective utilization and communication. Increased demands placed on all key parties to the building process places construction is at a critical point in addressing communication problems plaguing our industry, many of which are not new to practitioners, in an effective long-lasting fashion. One way to address this situation is via PSWS'. (See Figure 1).

PSWS are web-based applications that take advantage of the Internet to provide a collaboration platform to perform typical project management tasks, such as store and manage project information. They allow all necessary groups of people such as contractors, engineers, architects, and clients, controlled access and automated distribution of information. The combination of the internet and project management systems has opened many new communication pathways.

Through the integration of these two systems, tasks can be accomplished better, faster, and cheaper. Better project control, especially during project procurement, can significantly impact savings on construction projects. (McMaster, 2006) In addition, such web-based systems offer historical document archives that are easily searchable for retrieval and reference purposes. PSWS use has been reported to reduce costs, reduce schedule timeframes, reduce RFI turnaround, and improve overall communications. The system improves communication between project participants, increases accountability, and streamlines the development process from site selection to design, construction, and operation. This reduces the costs incurred by change orders, claims, and record maintenance as well as minimizes or eliminates delays.

Even with the availability of web-based project management and collaboration systems, the construction owners continue to be disappointed in their overall building experiences due to the under utilization or misuse of such technology. Based on the results of the Fifth Annual FMI/CMAA Owners' Survey in 2005, this article will discuss the use of PSWS collaborative tools in the construction delivery process.

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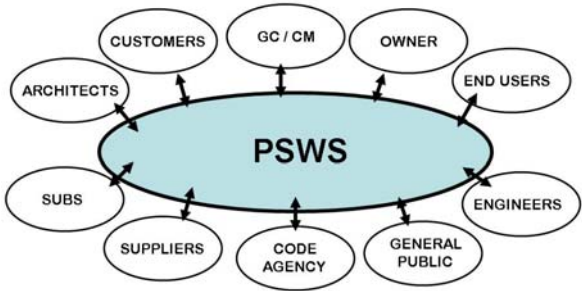


Figure 1: PSWS Collaboration Platform

CURRENT USE OF PSWS CONTINUED

The discussion will follow some of the areas of concern identified by the owners throughout the stages of project delivery.

The author's perspective comes from over 20 years of construction project experience and nearly ten years of utilizing a PSWS since its initial development and roll out in 1997. In addition, the author has provided feedback to the ASP, now referred to as software as a service (SAS), throughout this same time period in the continuous improvement and implementation of this technology from both an academic and industry practitioner perspective.

2. IDENTIFYING THE NEED

It has been over 11 years since the first project-specific web site went live. Highlighted by *Engineering News Record* in their June 24, 1995 issue, the Washington Suburban Sanitary Commission made history by consolidating all their project documents and correspondence into one centralized location, accessible 24/7 from anywhere in the world. Considered "revolutionary" at the time, technology advancements and cultural changes have spawned a series of new trends in world-wide construction project management. (Antevy, 2006)

The applications available and the need for effective use of computer technology among construction management personnel have certainly changed over the past decade.

In a 1997 international study of 166 project managers, superintendents and field engineers from throughout the United States, Australia, Indonesia, Malaysia, and Singapore it was found that the average daily use of computers among respondents was 4.5 hours. The study also found that the respondents' perception of the importance of the Internet rated only a 2.57 out of a 5.00, which placed it seventh among the top uses in rank of importance. In answering the same question about e-mail, the perception of importance was 2.95 out of 5.00, placing it third highest in the most important applications.

It should be noted that the remaining top five most important applications identified included: Excel (3.63), MS Word (3.56), WordPerfect (3.02), and Primavera Project Planner (2.76) (Cox and Hampson, 1998)

If the same question of importance was asked today, the responses would be different. The daily use of computers has perhaps approached nearly a full day, most of which is devoted to such applications as using an Internet browser or most certainly e-mail.

Every project delivery system demands effective management of time and the communication of project data that must be available to all prime entities at any given point in time. "The Internet in the last half-decade offered to the construction industry a perfect network for structuring project management online. The construction industry, though in a very elementary state of transition from its traditional methods of management is slowly but surely complying with the change." (Katsuri and Gransberg, 2002)

3. OWNER PERSPECTIVE

The results of the FMI/CMAA Fifth Annual Survey of Owners indicated that owners continue to express their concerns with communication and collaboration issues. More effective communication was again rated as the top change that "will most significantly contribute to improving the quality of the project delivery process." This survey of approximately 200 construction project owners is conducted on a regular basis and included both public and private owner respondents from general building, industrial, manufacturing, transportation, and water / waste.

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CURRENT USE OF PSWS CONTINUED

Specific project delivery concerns identified by the owners included schedule and cost issues, each of which can be further categorized into problems associated with coordination, communication, and accountability.

Owner respondents indicated that actual time requirements for "key phases in construction" were 20% to 50% longer than planned, causing a ripple effect on the project in terms of delays. It is generally accepted that time is money. Owners identified these five top reasons for cost overruns that were experienced on their projects:

- Incomplete drawings
- Poor pre-planning process
- Escalating cost of materials
- Lack of timely decisions by owner
- Excessive change orders

Many of these delays and reasons for cost overruns could be avoided through more effective management and control of the construction process.

The owner has played a major role in the more recent moves towards implementation of online collaborative management tools in the construction industry. Similar to past owner-driven initiatives, such as safety, complex scheduling, and sustainability, project owners now play a major role in the implementation and use of Internet based project specific web sites.

The trend of owners demanding that contractors use online project management systems continues to grow in popularity.

4. SOME KEY OBSERVATIONS FROM THE MOST RECENT FMI/CMAA SURVEY

The various issues surrounding efforts of coordination, collaboration, and communication continue to challenge owners and cause confusion on projects.

According to the FMI /CMAA study:

- The leading causes of cost overruns are incomplete drawings, poor pre-planning, and the escalating cost of materials.
- There is insufficient time and funding in a typical project to give the pre-design stage the attention it requires.
- Owners need to work harder to control scope and avoid "scope creep."
- More than 70% of respondents say they have experienced a decline in the quality of design drawings.
- Nearly 60% of respondents say having subs complete the design increases communication and delays.
- Architects need to be held more responsible for completing a quality design that can be built without numerous change orders or requests for information.
- Owners expect their construction manager to provide leadership in managing projects from beginning to end, including design, funding, scheduling, and construction.
- Nearly 80% of owners believe project collaboration software can help avoid disputes and miscommunications, but about 65% still do not mandate its use on their projects.

This author proclaims that the vast majority of these bulleted points can be addressed by a properly established and effectively utilized PSWS. (Cox – XICAT, 2006)

Although nearly 80% of owners said interoperability of software products is important, about 65% also said they are not satisfied with vendors' efforts in this direction to date. (FMI / CMAA 2005)

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CURRENT USE OF PSWS CONTINUED

4.1 Improving Communication and Collaboration

The need to improve project communication and collaboration among construction players has become one of the major reasons that projects run over budget. Based on the FMI/CMAA (2005) owners' survey respondents, the top five project-related practices that owners believe would improve communication and collaboration are:

- Provide a contact for decisions and approvals (77%)
- Openly share project information (75%)
- Assemble project team early and meet frequently (70%)
- Meet with service providers to share mission and goals for the project (64%)
- Delegate communication and collaboration responsibility to the project manager or construction manager (40%)

A large portion of the owners surveyed (76%) believe in the need for formal and/or contractual specifications regarding communications between parties. If owners are treating communications expectations similar to how the industry has handled safety, quality assurance / quality control, and ISO 9000 compliance, then project specific web sites are the key technology available today that can support such contracted communications requirements.

In a *Constructech* online article, it was suggested that technology was more of a luxury to contractors some five years ago. The article suggests that technology in construction over the past five years has been adopted mainly by those firms that had a desire to be on the "bleeding edge" as a differentiator in the market. In contrast, today's view of technology is that it is beginning to be a required contractor capability.

Results of Constructech's 2006 National Construction Technology Survey reflect this trend. According to the survey, roughly 56% of respondents indicate that project owners are now requiring contractors to adopt technology tools. While approximately 52% of general contractors are now requiring their subcontractors to adopt various forms technology applications.

Many projects have reported gaining greater benefits from those technology applications that help them connect their partners throughout all phases of a project including conceptual design, preconstruction management, construction, and operations and maintenance utilizing a totally integrated platform or web-based collaboration tools.

5. PROJECT COLLABORATION SOFTWARE

It's becoming well-publicized that PSWS applications are making gains to improve project communication and collaboration.

Eighty percent of owners surveyed by FMI/CMAA (2005) thought project collaboration software could help reduce miscommunication and project disputes. At the same time, some owners appear to be reluctant to mandate the use of collaboration software across the project team. This is reflected by only 35% of owners stating that they mandated its use. (FMI /CMAA, 2005)

Still some think that collaboration is too complicated, too costly, or perhaps even not suitable for their organization. This is most likely due to these individuals being exposed to PSWS technology more than five years ago. In other words, these non-believers have not seen nor experienced the newest user friendly nature of the PSWS systems. The transformations made to the PSWS application technology in the past five years is likened to the conversion of software from DOS to Windows based programming.

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CURRENT USE OF PSWS CONTINUED

Today's interoperability using Adobe® file conversion provides ease and portability of all document formats, no matter if you have the native application or not.

A PSWS is not just a technology, it is a proven management tool, unlike many of the past applications. Unfortunately for contractors, they maybe forced to adopt owner's systems, despite their own investment into an online system of their own. The issue being faced by contractors today is whether to standardize their online project-management services or adjust to owners' market. This inevitable trend is growing and requires the contractor to maintain flexibility in how the team manages the project. Proven ability of contractors to adapt to different owner systems may one day be the differentiator in contractor selection. (Antevy 2006)

5.1 Interoperability

Among the reasons and perceptions that owners have for avoiding the adoption of project collaboration software are the questions of interoperability and interchangeability. The results from FMI/CMAA survey indicated that 80% of owner respondents said that this is an important issue, and many reported being dissatisfied with interoperability and data interchange. In addition, 43% of owners are expecting that they will require vendors to provide interoperable/interchangeable software in the future. Interoperability is highly desired. However, given the fragmented nature, not to mention the proprietary nature of project management solutions, many software applications have been developed without any interoperability or interchange focus. Thus, it is unlikely that genuine industry-wide interoperability will be accomplished in the near future. So, in the meantime, owners desiring true interoperability between their own various internal systems and those of their entire project team members will likely need to secure project specific web sites to link the outputs of different software systems together.

On a PSWS collaborative site the data interchange can be with a vast multiple of file formats, as a matter of fact the PSWS provider e-Builder is capable of converting over 250 file formats to Adobe PDF so that everyone can review all files without needing the native application. Project Specific Websites enable users to view or download files, mark comments, redline documents, and the original source file is not being affected. The redlining and commenting tools also work with drawing file formats. (Cox-CONVR, 2006; Antevy, 2006)

The interim solution to interoperability and interchangeability may be the growing use of project collaboration software. Project collaboration tools provide a viable interface as though systems were interoperable, in the sense that the user can locate and look at all the related data from different systems through one system "portal" (the PSWS) even if not all applications are interoperable.

5.2 Bottom Line: Things Owners Can Do to Improve Projects

Communication concerns with respect to the owners themselves also ranked high on the scale of important issues. Some of the top responsibilities that they think they themselves need to do to improve project success included:

- Making timely decisions
- More effective communications

Making timely decisions is dependent upon more effective communications, so both of these must be concentrated on to make improvements. These components are also critical to correcting the issue of schedule delays at various stages of the project, which was identified in an earlier section as a major reason for the cost overruns experienced by the owners. Owners believe that they can significantly improve the delivery process through effective communications and timely decisions.

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6. LONG TERM PERSPECTIVES

It was found in a 2005 Purdue University study that strategic related performance appeared to be the best predictor of Project Management – Application Service Provider (PM-ASP) performance. This led the researchers to suggest that the use of PM-ASP is becoming more important to practitioners in terms of long term benefits rather than short term benefits. (Nitithamyong and Skibniewski, 2006)

Based on a 2005 random survey conducted by the M.E. Rinker School of Building Construction at the University of Florida of 91 of ENR's top 400 contractors for 2004, all twenty respondents (n=20) reported that their firms were involved in e-business in one form or another. The most widely used e-business application in 2005 is that of the extranet / Internet (75%) n=15 showing an increase since 2000 when it was reported at a 65% level of use.

Reported e-business initiatives indicate that project development and Internet/extranet tools were the most utilized and are slated for greater use. The greater use of Internet / extranet was at 60% (n=12) in 2005 versus 55% (n=11) in 2000. Communication was the next most frequently identified response among initiatives with a 10% increase (50% to 60%) since 2000 (n=10, 2000 to n=12, 2005).

Customer relationships were reported as most important (#1 in 2005, #2 in 2000). E-Business is about the commitment and capability of companies to change their way of doing business from a traditional company-centric stand-alone paradigm to a new networked-leveraged synchronized paradigm. E-Business is the future and it is here now and the companies must embrace these new technologies if they want to survive in this fast paced, construction world. (Treffinger, 2005).

Such findings suggest that construction firms are looking to more forms of e-business as a mechanism to better serve their clients and more effectively manage the construction process. ASP's such as e-Builder provide an immediate initial solution to project management woes via PSWS applications, while providing a very healthy foundation on which to grow future, long-term collaborative applications to streamline the construction process.

7.0 PSWS AND CONSTRUCTION PROJECT CHANGES

Online project management systems are now helping owners manage their projects earlier in the process. While contractors initially led the industry in use of these systems, it made sense that most implementations took place during the construction phase. This is not the case anymore since owners have taken the lead. During the planning process, there are multiple parties that need to be involved. Users of the facility convey their requirements to the architectural staff where conceptual designs are produced. Working in parallel are the budget keepers, ensuring that the costs do not exceed a specified amount. (Antevy 2006)

7.1 Communications and Information Sharing

Use of a web-based project management system improves overall coordination, collaboration and communications through a variety of ways. First, by having a central portal of the most up-to-date project information for all participants to access provides a means for everyone to access whatever is needed to perform their individual responsibilities on the project.

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CURRENT USE OF PSWS CONTINUED

Secondly, the ability for PSWS participants to retrieve archived historical documents increases their level of understanding the overall project issues as they arise and are resolved (See Figure 2). Thirdly, project participants can easily see which project team participant is the bottle neck in the system holding up a decision or a vital piece of project information that is needed for continuing forward. This accountability raises the level of awareness for all team players and increases their likelihood to stay on top of the situation and provide timely, complete, and more effective coordination, collaboration, and communication. To basically get the job moving and keep it running smoothly so to not be seen as the "problem link."

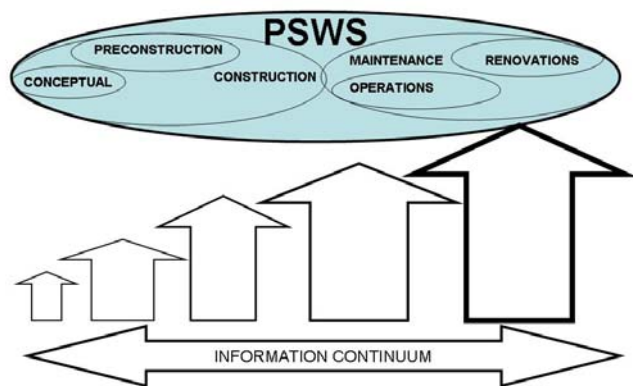


Figure 2: PSWS Data / Information

Using a web-based portal for all project information from conceptual stages through construction, occupancy, and maintenance allows project players the opportunity to access and utilize the information that is critical to the functionality of their role on the project. By having open information access on the PSWS it provides the "information users" the right to choose which information is actually vital to their performance and does not place any reliance on other players for a project participant to complete their assigned duties. Simply put, in an open information environment

by making sure that everyone on the team has access to what information is needed to perform readily available to them then any excuses for non-performance are eliminated. In addition, such technology is a mechanism for project participants to "meet and interact" with all other members "anytime, anyplace" as long as they have access to an Internet browser. This has been recently enhanced as ASP's have integrated their PSWS' to be interfaced with Blackberry wireless hand held devices, eliminating the need for a computer Internet connection (www.e-Builder.net). (Cox-XICAT, 2006)

Findings reported by Wesek, Cottrez, and Landler support each of these perspectives presented. Based on the benefit analysis conducted by Wesek, Cottrez, and Landler reported benefits centered around improved project communications, 24/7 access for all parties, reduction in response time, shortened project durations, increased responsibility and accountability, and improved recordkeeping and documentation. (Wesek, Cottrez, and Landler, 2000)

A collaborative PSWS provides the participants instant e-mail notifications of critical documents and process items. The user can actually select and place various prioritized notification levels across different documents and folders within the entire PSWS.

The participant can have subscriptions to any or all files and folders and set it up to receive instant notification if any document is accessed, updated, or created by another project participant. If the user does not want instant notification then they can choose to receive a daily summary of all of the actions that took place within a subscribed folder. This component would allow the PSWS user to subscribe to their most important file folders for instant notification so that they are

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CURRENT USE OF PSWS CONTINUED

immediately notified via e-mail that a new file has arrived or perhaps a file has been reviewed, redlined, downloaded, or accessed by another project participant. Such an action provides the user assurance that they are in the information loop and process flow whether they are logged in on the PSWS or not. This provides the user the ability to best utilize their time and take action on other projects simultaneously while awaiting notification. (Cox – CONVR, 2006)

Having the capability to fully collaborate with all key players (owners, end users, designers, regulatory agencies, contractors, etc) throughout the programming and designs stages provides for improved drawings as well as final designs that better meet the needs and expectations of the end user. Use of a PSWS allows for information to be stored and shared as decisions are made and plans revised. Document sharing includes archived “mark-up” versions of the drawings which give participants the ability to propose drawing revisions on a marker board set up with multiple participants reviewing, marking, and communicating all on the same view file. Such components give the entire project participant team the interaction and traceability to effectively complete the design process, gaining incorporation of all necessary revisions into the designs as they are being developed on the fly. Even the local building code enforcement agency can be involved in this process identifying and heading off potential delays in final project plan approval and permitting. (Cox- XICAT 2006)

Due to the transparent nature of project collaborative tools, project team members can view all information pertinent to their roles at any time. This transparency increases the levels of accountability for architects and engineers throughout the life of the project. In addition, allocations of responsibilities are more easily tracked via the PSWS and the historical document archive system. A PSWS increases

the accountability and responsibility levels of all team members simply because it is easy to track down the root cause for the delays and/or retrieve and review previous documents, designs, and/or communications that have transpired on the project since the beginning. Thus providing a true *project information continuum* unmatched by other interactive technology available. (See Figure 3)

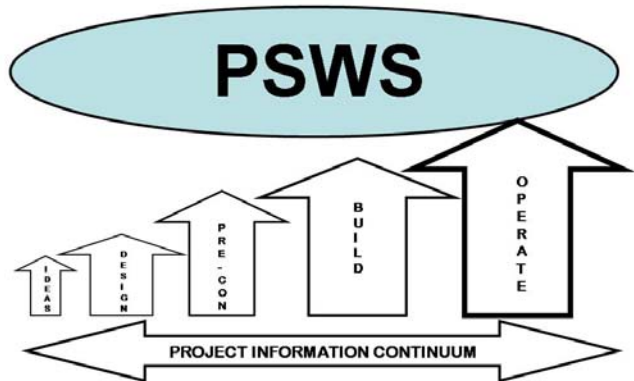


Figure 3: PSWS Information Continuum

7.4 Management

Many building related firms indicate they are deriving greater benefits from applications that help them connect their partners during all phases of a project including preconstruction, bid management, and plan distribution to full-fledged collaboration tools. (Constructech, 2006)

Online project management systems are now helping owners manage their projects earlier in the process. During the planning process, there are multiple parties that need to be involved. Users of the facility convey their requirements to the architectural staff where conceptual designs are produced. This rational also would apply to construction managers or design-builders who can take the leadership by administering the PSWS and provide and manage an Internet-based project management collaboration portal for all participants.

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CURRENT USE OF PSWS CONTINUED

The PSWS collaborative platform actively includes all project players to the point that a PSWS could be considered a form of participative or high performance management.

7.5 Closeout and Documentation Archives

A PSWS allows the user the ability to not only immerses them into everything that is taking place in the present timeframe, but they can actually be immersed in a continuum of interaction through the history of the documents being accessed. Such immersion provides the user the true total experience of being there because they not only have access to experiencing the present, but they can access the past, and even use the continuum of information to better understand the present to make the most effective decisions for the future. This is just like watching the “replay” and being able to make adjustments in the game plan that improves your overall project performance.

(Cox – CONVR, 2006)

All project related documents, all versions, all mark-ups, all correspondence, all designs and engineering, and ultimately all the “what’s, why’s, when’s and how’s” for everything that has taken place on the project since inception are archived electronically in a single platform that is totally searchable. Everything is at your fingertips to retrace your thought process and the outcomes are documented. This provides the construction process the most useful informational system for applying continue performance improvement philosophies. Improvements can be made using this archived *project information continuum* to not only improve the quality of the end product, but improve the quality of the process and work environment in which it is achieved.

8. CONCLUSION

The use of the PSWS forces a level of accountability, self-reliance, and independence in each project participant.

The use of technology has become an everyday affair in business and the use of Internet based collaborative project management systems like a PSWS is a vital tool for the future of the construction industry. Being able to review archived documents and understand why decisions were made and the actions were taken provides for continuous process improvement. PSWS technology is making a major impact on our ability to better manage and interact with multiple projects in various locations from one single log-in.

No other technology available today provides for interaction, communications, collaboration, archival data, a project information continuum, participant reliability and accountability; all without the need of the native software to review and gain full understanding and awareness of the project. The PSWS technology is positioned to make the largest impact on construction project delivery in the past 20 years since the introduction of the personal computer.

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CURRENT USE OF PSWS CONTINUED

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PMI® ANNOUNCES BOARD OF DIRECTORS ELECTION RESULTS

Results of the 2007-2009 PMI Board of Directors elections were announced at the Annual PMI Membership Meeting held during PMI Global Congress 2006 North America. Newly elected board members are:

Eugene (Gene) Bounds, PMP
Mark Owen Mathieson, PMP
Bruce Rodrigues, MBL, PrEng, PMP
Ricardo Viana Vargas, PMP
Linda Vella, PMP

They will join the following board members on the board in 2007:

Iain Fraser, FPMINZ, PMP
Philip Diab, MBA, PMP
Karen Tate, MBA, PMP
Frederick Arnold, PMI Fellow, PMP
Yanping Chen, Ph.D., PMP
Kathleen Romero, PMP
Katherine Shawver, PMP
Martin VanDerSchouw, PMP
Thomas Walenta, PMP
Al Zeitoun, Ph.D., PMP

The 2007 PMI Board of Directors Officers and Board Standing Committee Chairs were also announced:

Chair - Linda Vella
Vice Chair - Philip Diab
Secretary/Treasure - Martin VanDerSchouw
Chair, External Relations and Volunteer Involvement Committee -Thomas Walenta
Chair, Strategic Planning and Program Alignment Committee - Bruce Rodrigues

DPC SIG LATIN AMERICA – CALL FOR VOLUNTEERS

Fabio Teixeira de Melo, PMP
DPC SIG Latin America Coordinator

Do you live in Latin America? Would you like to see DPC SIG products and services developed to fit your needs? Would you also like to see a DPC SIG presence in your project management community?

Aiming to develop the SIG and deliver value to its members around the world, the SIG Board has decided to create regional coordination teams. I am proud to have been appointed to that role in Latin America. I will be acting in coordination with Peter Santillana, my deputy in this role. I have to confess that I am also a bit concerned about how big this challenge is.

The trick is that the engineering and construction industry and community in Latin America presents a different reality for each country – and for a start I am only **considering those with PMI chapters: Argentina, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Jamaica, Mexico, Panama, Peru, Trinidad, Uruguay and Venezuela.** The needs are also different, and that means there is no “one size fits all” solution. There is no way to add value to all the communities within the region with the same project. At least not to the point we wish to add.

The solution here is to decentralize and delegate. As Latin American DPC SIG members, you know the needs of the construction community within your areas. You are the ones who know the entities that foster growth in your country. It's obvious that local members would make the best volunteer to take on the role of coordinating the programs, projects, partnerships and volunteer work in the Latin American community.

We are very happy to tell you that we are looking for volunteer members to form a coordination team with representatives in every PMI Latin American chapter. That team will develop ideas and exchange experiences, while each coordinator will be responsible for fostering growth within its community.

That role offers a unique opportunity of networking within your community and industry and with your colleagues in Latin America. You will work on projects that are quite different from construction projects, and that will allow you to improve yourself in many of the skills (especially the soft skills) required from a project manager and for which construction projects offer few opportunities for practicing. You will earn PDUs for maintaining your efforts and you will have a very rewarding volunteer experience.

If you are interesting in facing that challenge within the Latin America coordination, please contact us at fptmelo@odebrecht.com or santillanap@aafes.com and we will be delighted to give you more information.

We look forward to hearing from you!



Newsletter Submissions



One of the benefits of belonging to a professional organization like PMI is the opportunity to **share information, experiences and Best Practices with your colleagues**. The DPC SIG Newsletter is a great forum for expressing one's ideas in print and we are looking for members who have something to say to submit written articles for consideration.

In addition to being eligible to earn PDUs toward your PMP recertification, many "published" individuals actually list their works in their professional résumés.

Articles are typically 500 – 700 words in length and should be **pertinent to design engineering, procurement, construction, business, management or the project management profession**. All submissions are subject to review by the editorial committee prior to publication and will be printed on a space-available basis. We're looking forward to hearing from you! For more information or to submit articles contact the Vice Chair Communications.

Engineering News-Record Subscription Offer

Thanks to the enthusiastic response from DPC SIG members, the publishers of *ENR* have extended the opportunity to subscribe to *ENR* at less than half price!

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"[The Task Force has] produced a complete and thoughtful work that can help improve the management of building construction in general anywhere." - Sherrill McDonald, VC Administration, DPC SIG and Project Manager – Construction Extension to the PMI® PMBOK® Guide.

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LETTER FROM THE CHAIR CONT.

I would like to give special recognition to two board members for their dedication, leadership, and contributions to the SIG. During the recent meetings in Seattle, I awarded the Outstanding Board Member awards to Sherrill McDonald for his efforts in 2005 and Wayne Baruch for his efforts in 2006.



Wayne Baruch (Vice Chair Marketing) receiving the Outstanding Board Member 2006 award from Robb Gries (Chair) at PMI Leadership Meeting in Seattle, Washington, USA.

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EMEA Members – 343

Latin American Members - 104

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CALENDAR OF EVENTS

November 2006

6-8 November 2006
18th Annual International Integrated Program Management Conference, Alexandria, Virginia, USA

6-10 November 2006
4th Annual PMI Houston Chapter 2006 Conference & Vendors Expo. Houston, Texas, USA

7-8 November 2006
Planning to Manage Time, London, U.K.

10 November 2006
PMI Central Ohio Chapter Professional Development Day, Columbus, Ohio, USA

21 November 2006
PMI Greece Chapter presents its first Project Management Congress in Greece

27-28 November 2006
PMI-MG Project Management Annual Meeting, Belo Horizonte, Minas Gerais, Brazil

January 2007

29-31 January 2007
PMI Global Congress 2007—Asia Pacific, Hong Kong

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20-21 February 2007
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