Research, Knowledge Management, and the Future of Our PM Profession
© 2014, by Stacy A. Goff

Abstract

Is Project Management (PM) a separate profession, or a novel recipe of fresh flavors, spicing up all other management disciplines, to help them meet the needs of an ever-demanding society? While any given group of PM practitioners, educators, researchers, professional associations and independent observers has different perspectives, the business needs of executives, organizations and stakeholders cannot be ignored for much longer.

Others, who are outside our discipline, view project and program project management as yet another in a set of "stove-pipes," vertically integrated specialties, that too-often ignore the adjacent professions, and emerging practices. Worse, too many stakeholders, including top executives, sometimes or often (depending on variable factors) view us as contributing very little to strategic results, and business and organizational success.

At the same time, many PM practitioners demonstrate extraordinary prowess in meeting and achieving executive, organization, and stakeholder expectations. What are the differences between these extreme variances in results, from ostensibly, the same discipline? Our answer: Integrating the strengths of "full bandwidth project management" with Organizational Knowledge Management.

In an era that demands "more for less," our practice too often *delivers much less for less*, and we risk becoming irrelevant to the very decision-makers who should see us as their strategic solution for organizational and societal change. In this presentation and paper, we explore possible futures that avert this troubling situation, while illustrating the need to tear down the walls that isolate adjacent disciplines.

Context: 80 Years of PM Perspectives

In 2008, we were asked to write one chapter for a new book, to be edited by Project Management author and expert, David Cleland. The book, **Project Management Circa 2015**, was published by Project Management Institute in 2009. Over forty authors participated; as many as five authors collaborated on each chapter. To deliver our chapter, **Visions For the PM Software Industry**, we empaneled a group of PM visionaries, including top managers of the most significant project, program and portfolio management software.

As footnoted in the resulting chapter, which is available (with the permission of Project Management Institute) at Stacy's website, our own experience in this subject began in 1968. We created an application that could plot, on a 30" wide, 300 foot roll of paper on a Calcomp plotter, an up-to 1000-activity precedence diagram—using a 32KB IBM 360 computer. Our application threatened the survival of commercial offerings that required the project manager to manually locate each activity in the most-apparent spot on a grid; our application calculated the optimum placement, with a minimum number of lines crossing.

Thus we saw, at an early date, the leap-frogging of innovation, applying rapidly accelerating technology in the practice of project management. To be symmetric, in 2008, as we explored our chapter assignment, we looked back 40 years, *and then* looked ahead 40 years. We looked further ahead than our 2025 assignment, just to assure that we had the right slope and trajectory of perspective—looking just to 2025 would only give us one data-point, and we felt it was important to present multiple data points to assure a smooth curve for our projections. But this paper is not about the past; the reader can access our chapter to come current with the present— and with our perspective of the future of project (and program, and portfolio) management.

A Change Agent's Retrospective

Obvious events in the retrospective portion of our analysis included the impact of the Personal Computer revolution—making PM software available to everyone—rather than limited, as before, to those with easy access to mainframe computers. Other factors included our early penchant for knowledge reuse: reusable project plans, and reusable business results; simple and easy re-use of knowledge from risk management and lessons learned. We cited early uses of "Intellagents," our 1980s term for intelligent guides that helped project managers to produce better estimates, better bids, better plans, and better project and business results.

And yet… even with the significant PM practice advances of the 1980s, the gap between leaders and laggards in harnessing the advances widened. Only the top leaders in enterprise PM have realized the potential of the last 40 years of progress. So, after 40 years of bodies of knowledge, methodologies, software tools and maturity models, billions of USD in training, and corresponding onslaughts of exam-based certifications, the vast majority of organizations still receive middling results from their project and program initiatives.

To illustrate the size of the gap: Our analysis suggests that the PM software industry, after 40+ years, only engages 5% of its potential market. What is the most sophisticated use by the rest of its audience? Drawing pretty pictures that show how late your mission-critical project is today. What is missing? What will be required, for the tools to reach their promise, and their potential?
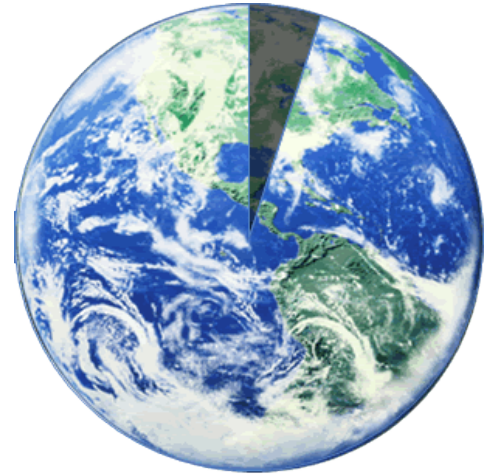
It was from these observations that we arrived at the ideas that we share in this paper. Those include (these are observations, not truths):

a. Project Management is a young and incomplete practice or profession, with widely varying standards for effective practice—despite purported agreement, even on an ISO standard;
b. It overlaps other disciplines in most organizations, including contract management, organizational change management (which is part of the competence set of all high-performing project managers);
c. Effective PM requires much more than recipe-following of technical process steps, some of which have done far more harm than good in achieving business results; all while too-often ignoring stakeholder engagement (*not* stakeholder management), strategic alignment, interpersonal skills, and leadership;
d. Our practice still tends to focus on *data*, not *information or knowledge*; and it more-often addresses lagging indicators, rather than leading factors—which prompt smarter, faster, decision-making;
e. We consistently fall short of "delivering the promise" in too many projects, in too many organizations;
f. In many cases, executive management has "given up" hope that our practice will ever deliver its promise.

Visions Summarized

Given 40 years of active history, we were able to make some easy projections of likely practice advancements, just based on *trajectories*—continuing on current paths. Our *discontinuities* attracted the greatest interest from those who have read the chapter. Our reason for looking at both types of futures is that, while trajectories are easy to envision, they tend not to cause massive change—by their very nature.

It is the discontinuities, which often come from outside the discipline, that can have the greatest impact. We never intended, in our book chapter, *to predict the future*. Instead, we intended first, working with our expert panel, to explore possible futures. And then, most importantly, we explored the *implications*—for practitioners, for executives, and for our discipline.

We focused on a collection of emerging ideas, that would improve business results from projects and programs, and that would increase the market penetration of project management-related software.

And in the process, we "saw" the need for project management to move beyond current practices and current levels of effectiveness—as demonstrated by the average practitioner. As expected, we also saw the need for PM practices to resonate more smartly with the managers at multiple levels above our practitioners. Our years of consulting have demonstrated that an organization receives its greatest benefit from PM only when the layers of management between the project manager and the CEO learn to *manage the successful project climate*.

Trajectory and Discontinuity Scenarios

For this paper we list a few of our scenarios, rather than explaining them in detail; you should read the book chapter to explore them further. They illustrate the potential impact of looming innovations on our industry's future—and set the stage for a discussion of the role of research, knowledge management, and the future of our PM profession. The scenarios may also stretch your reality enough to prepare for the future of our practice.

A. Integrated Portfolios: Capital, Operations, and Projects/Programs
B. Tagging, storing, and reuse of Project Knowledge
C. Useful Dashboards and Project Intelligence
D. Gloria Gery, Performance Support Systems
E. Bonnie O'Neil, Rule-based Databases
F. The Wisdom Tooth Scenario

Caveats
Whether these scenarios are realized or not is unimportant: What is important is the number of executives, professors, and project, program and product managers who have requested more information, or begun discussion about the ideas, and their implications. The key to all interested parties is a handful of prerequisites:

a. A consistent and efficient way to capture information, knowledge, and possibly, experience.
b. Systematic and random-search ways of filtering and selecting relevant information and knowledge, including classification and tagging (perhaps a Dewey Decimal System approach?) to make the information and knowledge easily accessible.
c. Institutionalization of knowledge re-use, rather than repeated re-creation—this is true sustainability.
d. A culture of exchange, that supports and *encourages*, perhaps monetarily or through "cooperative credits," as Les Squires[1] has worked with. This would benefit individuals, organizations, and the "middle men" who might profit from putting providers and receivers together—for the vast benefit of all.

Revelations

The greatest implication from our efforts is this: Project Management, while an important discipline, depends on successful use of a range of competences that are often perceived as parts of other disciplines. For example, while Organizational Change Management is a core competence of the most effective project and program managers with whom we have worked, our profession does not often acknowledge that organizational change is part of our job. And while Risk Management is both a key success factor for projects and for our organizations, it is too often considered to be an optional part of project management—one that is too often ignored until it is too late.

Some practitioners realize that managing the risks, both of the project, and of our solutions to the business problems we are dealing with, can be the core action of competent and performing project management.

And finally, Organizational Knowledge Management, often considered to be a totally independent area of study, is a key to bringing project management out of the shadows, and into mainstream recognition as the tool/discipline/profession of choice for those project organizations that intend to thrive.

Progress Check

To this point, we have merely set the stage. We've identified a vision, discussed a few clever scenarios; what does this have to do with research in the world of project management? Perhaps some of the preceding has inspired a few ideas. Or perhaps the reader wonders, "Where is this headed?" Our answer: Now that we have set the stage, the remainder of this paper explores further the opportunities we see.

A number of PM Research opportunities emerge. Those opportunities exist in, at minimum; the following areas (note that this is merely a selection of the many opportunities):

A. Progressing the profession: distilling data into information, and transforming that into knowledge
B. Managing That Which Makes a Difference
C. Identifying key PM success factors, then connecting PM to Business Success
D. Institutionalizing PM, Risk Management, and Knowledge Management
E. PM as a core competence for all persons

A. Progressing the profession: The Taxonomy of Data

In the late 1970s, a popular approach to knowledge management was the Taxonomy of Data. This insight showed the relative progress of information management from data, to information, to knowledge, to wisdom. Indeed, the author presented in multiple conferences, the distinctions, additions, and uses of this. The presentation went something like this…

Data is as common as the sand on the beach. It has potential value, but most-often in a primitive and elemental way, requiring some transformation to become useful. Data that is combined with other data, organized in a way that is useful for the audience, and that audience's purpose, and summarized and presented appropriately (and in a timely manner), becomes Information, the basis for smarter decisions. Such properly presented data is useful in prioritization, because it helps identify the urgency and/or importance for action.

While **Information** is often actionable, it is the application of that information in timely decision-making that delivers value. And, the project's success, together with the tacit or explicit **Knowledge** resulting from and surrounding the use of that information, is key—especially in the project environment—to the potential for re-use of that knowledge. This re-use could be by the person who originally applied that knowledge, or with practice, by others with whom the knowledge is shared.

Our taxonomy is not yet complete; but before me move on, allow us to point out the project parallels. Much of what most project teams capture, communicate, and track in projects and programs is, data with a bit of information. But given the above dialogue, it is timely information that is the basis for effective decision making. For example, what do you find in most PM Plans? Dates, costs, measured scope, perhaps some qualitative measures. Ideally, stakeholder expectations, and key assumptions. Only the last two items reflect information; the others are all merely data. Not only that, but they are usually trailing data: *You cannot evaluate plans versus actuals until it is too late to improve them.* Late? Hard to catch up. Over budget? Too bad!

Sources of information include four key project action areas: Assumptions, Risks, Issues, and Lessons Learned. While those are commonly used categories for project documentation, they are also the sources of true management information in projects. Of course, the data surrounding each of those action areas is important: It helps identify, as mentioned above, the amplitude of urgency and importance for action. Either in the current project, for situations that require prevention, intervention, or recovery, or in later projects—based on application (rather than merely recording) Lessons Learned.

To continue our taxonomy, what is the source of project wisdom? As presented in the IPMA Research Conference in Tianjin, China, 1-2 December, 2014, Wisdom comes from multiple sources:

- Underlying culture: We saw intriguing discussions of several millennia of wisdom from China's past.
- An individual's experience, when filtered and clarified with some perspective of the insights gained
- Project experiences of others on a team, as shared through both discussion and documentation—a key to knowledge management, that includes both tacit (personal) and explicit (shared) experiences.
- The wisdom of teams that comes from an organization that embraces the above three sources.

The bottom line: There is much to be done here, to merge the data-to-wisdom taxonomy with projects.

B. Managing That Which Makes a Difference

In today's project world, there is a great gap between the performance of those who apply a group of project processes as if they are following a recipe, and those who truly manage the information, knowledge, and interpersonal relationships in projects. Of course, that is one of the advantages of IPMA's approaches—a competence-based approach, rather than merely one based on grasp of a document on project processes. But the gap—and the distinction—goes far beyond that difference.
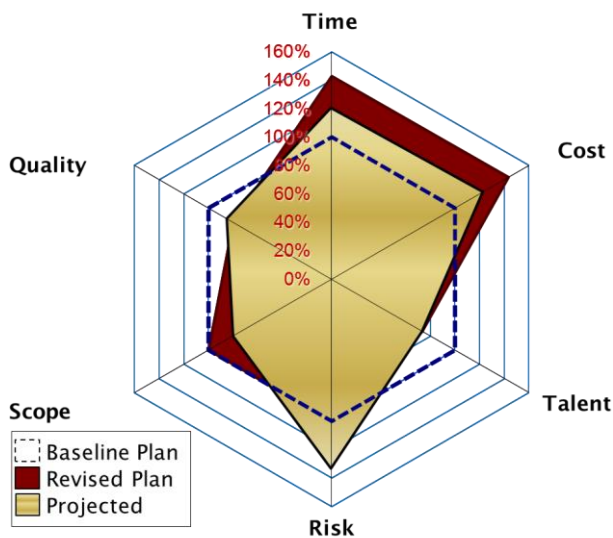
Closing the gap includes insights for a much more proactive approach to managing projects. In other articles,[2] the author has published a call to action to manage and communicate the factors that truly make a difference in projects. That call to action accepts the classic "iron triangle" of Time, Cost and Scope (or sometimes Quality, or sometimes Performance, which is said to include both Scope and Quality). Then it **moves beyond** the simplistic, to include the relevant.

For insight, see the diagram at right; your careful study of a project dashboard tool we've used since the early 1990s shows that Talent and Scope are often leading project indicators, and Time and Cost are lagging indicators. Further, Risk and Quality can be both leading and lagging indicators.

Thus, savvy project managers—and their managers—communicate and manage proactively, rather than merely reactively. This is actually easier than reacting to project factors that have already gone out of control. For some, it may be less exciting. But project and business success should be your objective—**not** excitement. Thus another research challenge: What can we, as practitioners do, to move toward managing and communicating that which makes the most difference?

C. Identifying key PM success factors, then connecting PM to Business Success

That said, we are missing another key ingredient: Common agreement about what and how to measure for Project and Business Success. We proposed this idea as an IPMA research project years ago—

even adding the thought that it should be a joint action with other groups, such as Project Management Institute, and others, including those managing PRINCE2 (now this is Axelos). Our reasoning? Far too many project managers (and their managers) focus exclusively on the easy-to-measure lagging indicators mentioned above, and ignore the factors that drive project success. Further, project teams, especially those who face deadline and budgetary pressures, all-too-often make decisions that help the project indicators to look okay, but destroy stakeholder value—even eliminating the requirements needed to measure Business Success with the project.

Clearly, if we intend to also focus on business success, instead of just project success, we must consider the contributions of other disciplines. In a series of blog posts, we have explored the role and timing of a handful of adjacent disciplines, many of whom seek executive managers' attention with their message, strengths, and promises. These other groups include, in addition to Project and Program Managers and Functional Managers, Business Analysts, Business Development Managers, Proposal Managers, Contract Managers, Product Managers, Knowledge Managers, and Organizational Change Managers. The implication: We must be able to merge the knowledge management foundations, key processes, competences, and performance and success measures to meet our organizations' expectations. Otherwise, we dilute our effectiveness through competition.

To achieve success, each project should have Sponsor, Management and Stakeholder agreement about the strategic alignment and business benefits to be expected from projects. Yet often, the project manager has not even been assigned when these discussions take place—and then leaves the project long before the business results are measured. This could mean that we should widen our profession's scope to begin to influence business outcomes. The lack of industry and management agreement about what constitutes project success, and business success from projects would appear to demand a standard, that all Project Concept teams could use as a starting point, to adapt for their project. Wouldn't this be an appropriate research action? We think so!

D. Institutionalizing PM, Risk Management, and Knowledge Management

Based on the research suggestions mentioned so far, it is a small step to the next level. That level would be the full integration of three components in a new era of Enterprise Management: project management, risk management, and knowledge management. While our audience is very familiar with the first component, the second, risk management, requires some discussion; and knowledge management requires further study. We can only fully integrate these disciplines if we understand them fully.
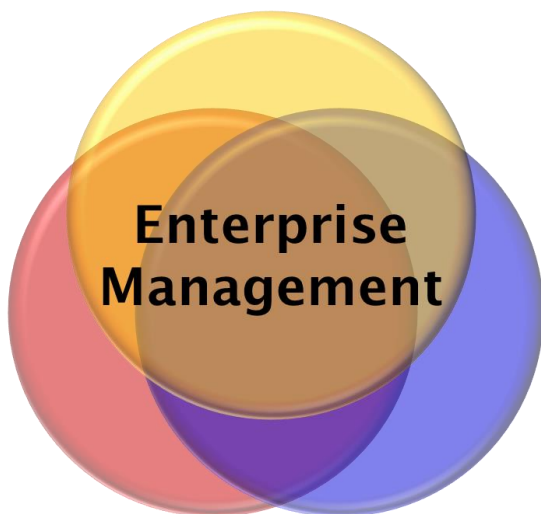
Know Risk: In this paper, we have explored insights and made assertions about the breadth and depth of competent project management; but Risk Management transcends PM. Why? Because we need to understand the enterprise view of risk, and bridge the PM practice's risk management gaps to enterprise actions, if we are to leverage executives' interest in managing risk. Some practitioners say that PM is mostly risk management. That's true if our portfolio includes projects that occupy all four quadrants of a Risk/Reward chart.

We see too many organizations that have all high-risk, high-return projects in their portfolios. And, they have a high failure rate. So clearly, projects and risk require a higher level of integration—and increased competences. It may be a surprise to some that project risk management is far more than five simple processes. This emphasis on smarter risk management is not new for us: We presented a paper at the 2005 Delhi IPMA World Congress[3] that illustrated much more of the full gamut of organizational risk management—and proposed a Chief Risk Officer.

Knowledge Management (KM): We had our own awakening about the potential—and challenges—of today's KM at a NASA Knowledge Forum several years ago. Organized by Ed Hoffman, then NASA Chief Knowledge Officer, and assisted by Larry Prusak, this event convened 50 or so of the World's KM experts. The author, an outsider and neophyte to the subject, was able to quietly observe the dynamics and interaction between the experts. By the afternoon, it was clear from the issues and answers that *KM and PM are like siblings, separated at birth*. They have different foundations, but the concerns and responses are nearly identical. In the culmination of the day's events, near the end, subgroups addressed the question, "How can I institutionalize KM in my organization?" Having facilitated the answer to that question dozens of times for enterprise and agency practice of competent and performing project management, it was clear that the key answers were nearly identical:

- Provide rewards for knowledge (refined information) capture and use;
- Pay attention to tagging and classifying new knowledge for ease of search and re-use;
- Establish strong executive support/direction, with periodic reinforcement;
- Focus on transferring both Tacit & Explicit knowledge, with clear examples of successes and benefits;
- Provide personalized coaching, where needed, for all levels, and especially middle-managers;
- Set up a "Voting system" as in Amazon or eBay, for audience-wide recognition of the top insights;
- Pay close attention to privacy, sharing, and security issues, so contributors need not fear the truth.

In follow-on KM discussions, we have ratified these similarities; in fact, they resonate across most organizations' change initiatives, as evidenced in a PM Institute Change Management community of practice and an IACCM (International Association of Commercial and Contract Managers) conference breakout group. And here is another strong parallel: Organizations that have put in place the prerequisites to successfully institutionalize project management can easily institutionalize knowledge management—and vice versa. Thus making the integration of aspects of PM, risk management, and km a viable and rewarding challenge for research.

E. PM as a core competence for all persons

In the mid 1990s, Project Management Institute published a report that there existed the need for, perhaps, 250,000 project managers in the World. When we heard the citation, we objected, pointing out that from the time children begin working in teams, they benefit from an appropriate level of project management philosophy, practices, methods, and tools.

Thus, in the mid-1990s, we asserted that the true number was somewhere closer to 4,000,000,000 (4 billion). Further, that while many project-oriented enterprises use our discipline as their core competence and market differentiation, our flavor (the author's) of project management, which has always included strategic alignment, vibrant communication, and leadership and interpersonal skills, as well as the technical processes, would be the core competence for all managers, all professionals, all workers, *and* all retirees.

What would this entail? First, clearer understanding of the missing elements of project and program management. We see great improvements in the current drafts of ICB4, with greater clarity on the Behavioral skills, and significantly greater coverage of key Program Management competences. Next, a clear syllabus for each role, ideally tailored to different audiences, distinguishing core competences needed for:

- Students, from grade school, to secondary school, to university undergraduates, to graduate studies. Of course, each universities PM curriculum would be required of all students, especially those who are not specializing in project management;
- Beginning and also advanced PM practitioners;

- Different application area practitioners, who have sector-unique requirements, including ICT, Construction, Aerospace, Pharma, Education, and many others;
- A range of PM basics that are most appropriate for different project sizes, complexity, and needed rigor;
- A range of adjacent roles, including those mentioned in topic C; and
- Stakeholders, managers, executives, and related audiences, including retired persons.

Of course, this initiative would require more than classroom education. Just as those who truly understand Learning realize that less than 10% of learning is in the classroom, we must provide for application of lessons, coaching, recognition of progress, and periodic review of attainment. We recognize that this would be a significant endeavor; and yet, it would probably cost less than the cumulative worldwide cost of exam-cram preparation for knowledge-based certifications from 1994-2014.

Closing

We realize that we may have stretched the boundary of PM—as many practitioners consider it—in this paper. In an accompanying presentation, we dive deeper into the lagging and leading indicators, the portions of project management that produce the best information, rather than just data, and project risk management as a key to better, faster decisions.

We began with a glimpse into the future—as trajectories from the past, and as discontinuities. We identified a portfolio of potential Research possibilities—or impossibilities, depending on your perspective.

We have encouraged the practice of managing and communicating the most-powerful, leading project indicators, rather than the powerless (and most-commonly stressed) lagging indicators. We added perspectives about the roles that touch, overlap, or conflict with project and program management. And we showed the close relationship of project and knowledge management. We assert that our enlarged view of project management is a core competence for almost all persons, starting in elementary school.

We have asserted that all in our practice, and those we touch, must integrate "full bandwidth project management." This, as opposed to focusing upon what is easy to teach, and easy to test. And we have claimed that project, risk, and knowledge management will together form the foundation of a new management era.

In this new era, we are truly able to do much more with less, because most work is done through well managed projects, and it is all in one enterprise portfolio. The societal impact of this transition will be plentiful: emerging countries will more quickly develop their infrastructure, feed their citizens, and provide them with time to engage in personal growth, rather than scrapping for survival.

Those who live in developed countries will also thrive; we will reduce poverty, and eliminate strife. Society will *Move Forward*, as in IPMA's vision, where all projects succeed. Perhaps, as Ray Kurzweil has predicted, we will enter a new Renaissance—thanks to the realization of the potential of project management as the discipline for beneficial societal change.

About the Author

STACY A. GOFF, *the PM Performance Coach*™ has coached and inspired tens of thousands of project and program managers, and hundreds of organizations, on five continents, for over forty years. A Project Management practitioner since 1970 and consultant since 1982, he has also been a strong contributor to professional organizations such as IPMA® and PMI® since 1983.

He is a co-founder and past-president of IPMA-USA, and 2011-2014 Vice President of Marketing & Events for IPMA, the International Project Management Association. In September, 2015, he was named an IPMA Honorary Fellow.

Goff's interest in project competence and performance began with establishing a PM Competency Center for a nuclear power plant in the early 1980s. It continued with international engagements during the 1980s and 90s as he helped organizations assess and improve their project and program performance. Today, he coaches, speaks and performs keynote speeches at major project-related events. And, he continues to pursue his interest in individual, project team, organization, and national and international PM performance.

Mr. Goff brings a results-oriented approach to Project Management coaching, consulting, and training. His insight for the needed PM Competences, and his delivery of effective training translate to improved project performance. In his working life, he combines his Project experience with sensitivity for the interpersonal skills areas—the human aspects of projects.

In his papers, presentations, workshops or in consulting, he combines his project experience with strategic linkage for all projects and programs. His insights and experience have provided competitive advantage for his clients for over 40 years. His business result: measurably increased **PM Performance.**

Contact Stacy at +1.719.488.3850, email: Stacy.Goff@gmail.com. His website is https://StacyGoff.com

References

[1] Les is an IPMA Research Board member, as of 2014; we have worked with Les for many years, and admire the many innovative ways he brings people together. His Common Currency ideas preceded his contributions to IPMA and to the practice of PM.

[2] *Levers and Gauges*, at stacy's website, emphasizes managing the leading indicators of project success, while monitoring the lagging indicators.

[3] Risk Management: Key to Project Intelligence, see our 2005 IPMA India World Congress paper, on our website.