IPA

Independent Project Analysis Newsletter

Independent Project Analysis, Inc. is the preeminent organization for quantitative analysis of capital project effectiveness worldwide. At IPA, we provide practices you can use to ensure your success.

Volume 2, Issue 3 **September 2010**

Research Spotlight:
Secrets to Improving Outcomes for IT Capital Projects

Jeanmarie McFadden

While your company may not consider IT part of its core business, the reality is that manufacturing and refining companies spend a significant amount of funds on IT capital projects. On average, 9.7 percent of capital budgets are spent on IT capital projects. And, as the worldwide economy begins to turn upward, spending on IT projects is expected to gain momentum as companies begin to catch up on deferred technology updates and improvements. Unfortunately, the rate of failure for IT projects remains unacceptably high in our industry. According to industry surveys, 38 percent of IT projects in 2010 were considered challenged – coming in over budget, behind schedule, and/or failing to deliver on their requirements. Worse yet, 24 percent of IT projects were either cancelled after authorization, but prior to completion, or were never used by their end users. According to IPA's research for IBC 2010 ***(Figure 1)***, less than one in five IT capital projects manage to deliver predictable cost and schedule and meet basic customer expectations.

The question, of course, is why do these projects struggle to meet these basic goals? IPA began to study this question in 1995 in response to requests from our clients to better understand what was driving the poor outcomes in their IT capital projects. After looking at hundreds of IT projects ranging in size from less than $100,000 to over $500 million, what has become apparent is that these projects are not struggling because they are installing cutting edge technology or because IT teams lack the technical expertise required for these projects. Rather, the key drivers of project outcomes are (1) the presence of strong business leadership; (2) the level and quality of project planning completed prior to authorization; and (3) strong, owner-led project controls. Not surprisingly, these are the same drivers that are critical in other capital projects in Industry.

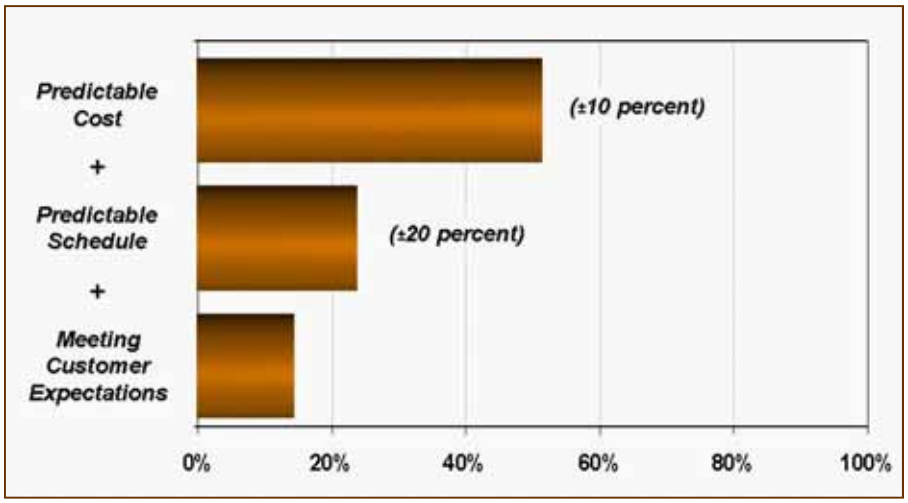

Figure 1. **IT Projects Are Not Delivering on Their Objectives**

Strong business leadership, with the involvement of an active business sponsor throughout the life cycle of the project, has been demonstrated to play a critical role in setting and communicating clear business objectives during project initiation. Strong business leadership is also important in securing early involvement and alignment from key stakeholders of the project, and is an important factor in bringing strong gatekeep-

[1] *Annual Capital Expenditures Survey 2003-2007*, US Census Bureau
[2] *2010 Chaos Report*, The Standish Group

(Continued on page 2)

Inside this issue:

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(Continued from page 1)

ing processes to IT projects. The positive effects from strong business leadership can be seen in improved cost predictability ***(Figure 2)***. Improving the clarity of business objectives from *Average* to *Clear* is linked to an average 10 percent improvement in cost deviation. Unfortunately, IT project teams frequently lack an active business sponsor and less than half of IT project teams have clear business objectives at authorization.

Figure 2. **Business Leadership Is Critical**

The second important driver of IT project success is the level and quality of project planning completed prior to authorization. IPA has developed a Front-End Loading (FEL) Index for IT projects ***(Figure 3)***, which is comprised of four components: (1) System Environment, (2) Design Status at authorization, (3) Project Execution Planning, and (4) Business Sponsorship. IT FEL has been shown to be strongly linked with cost deviation, schedule deviation, and customer satisfaction. In looking at the individual components, IPA has found that IT teams, on average, only reach *Best Practical* definition for Design Status, and struggle the most in Project Execution Planning. Project Execution Planning has been shown to be the strongest driver of outcomes, but the average IT project team only reaches an *Assumed* level of Project Execution Planning by authorization; the *Best Practical* level is *Definitive.*

In examining what poor FEL means for an IT project, IPA reviewed the outcomes for over 200 completed IT projects and grouped them into three categories: *Adequate* (less than 20 percent cost deviation, less than 30 percent schedule slip, and average customer satisfaction), *Troubled* (projects that did not meet all three of these criteria), and *Failed* (projects that missed two or three of these criteria). Of the teams that attained *Best Practical* FEL, none were classified as *Failed* and only 14 percent were *Troubled*. Conversely, only 11 percent of projects with an FEL Index of *Poor* were classified as *Adequate*, while 59 percent were classified as *Failed* and 26 percent were *Troubled* ***(Figure 4)***.

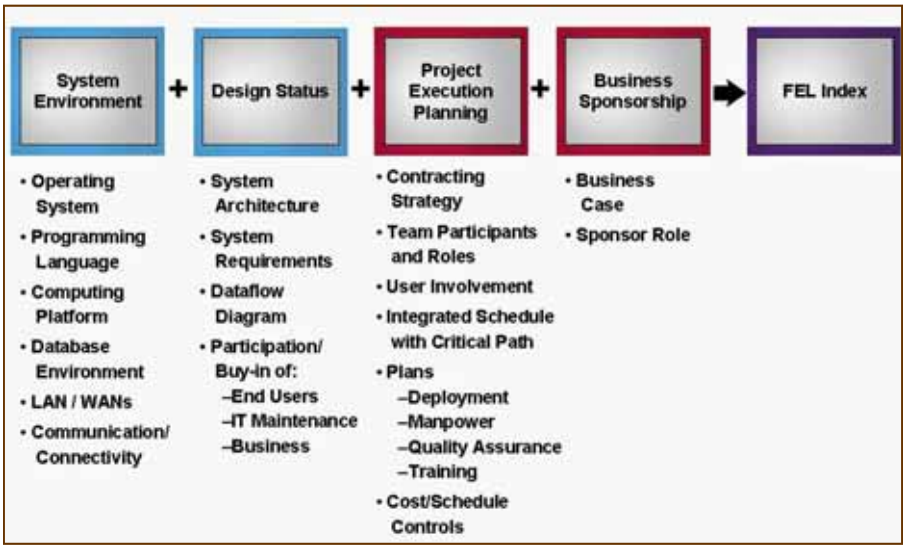

Figure 3. **FEL Index for IT Projects**

The final key area is owner-led project controls. IT project teams, which are frequently managed outside of a company's capital project system, often lack the personnel and data required for owner-led project controls. Only 39 percent of IT projects validate their estimates, less than two-thirds have a project control specialist on the team, and only 10 percent used detailed progressing and/or prepared frequent, detailed progress reports. However, just as with process capital projects, the presence of owner-led project controls is an important tool in keeping well-defined projects "on the rails" during project execution.

The "secret" to improving outcomes for IT projects really is not a secret to successful capital project organizations. The first requirement is strong, active business sponsorship, which establishes clear business objectives for the project. The second

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requirement is good, not average, project planning with involvement from key stakeholders to set the IT project team on the path for success. The final requirement is strong project controls that allow a project team to measure its project against plan throughout execution to keep the project on track. These improvements will not only pay off for individual projects, but for the company as a whole as better IT capital projects will deliver the technological tools that help your company remain competitive.

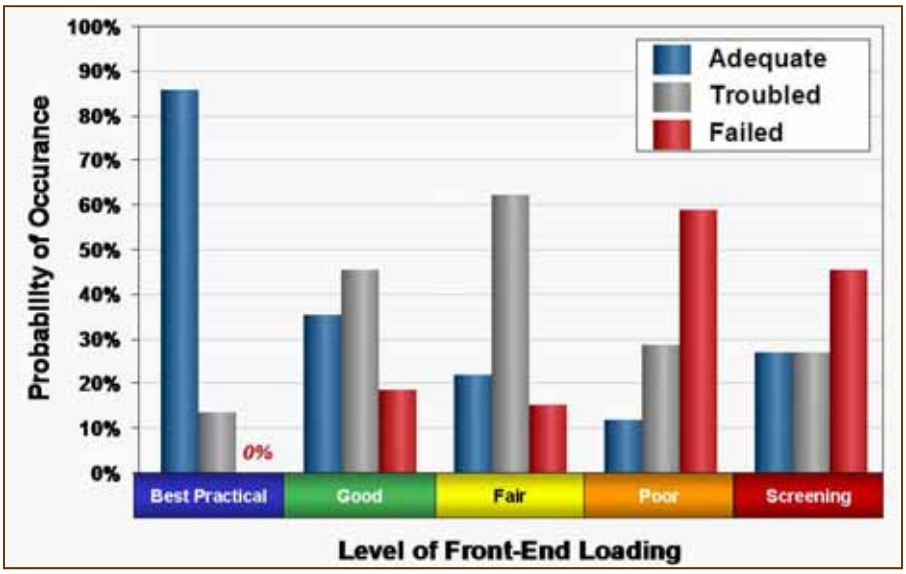

Figure 4. **Poor FEL Stacks the Odds Against Success**

For more information, contact **Jeanmarie McFadden**, IT Analyst, by e-mail at ***jmcfadden@ipaglobal.com*** or by phone at **+1 (703) 554-8857**.

Professional Profile: *Jeanmarie McFadden, IT Analyst*

Since joining IPA in 2008, Jeanmarie has conducted analyses for a variety of industries. As an analyst and IT Product Champion in the IT Benchmarking group at IPA, she has led both individual project and system benchmarkings, as well as conducted research in IT capital project performance. Prior to joining IPA, Jeanmarie had 15+ years of experience in information technology as a Director of Technology and a computer science educator. Jeanmarie holds a B.A. degree in Economics from the University of Virginia.

Front-End Loading Excellence in Information Technology Projects

New Workshop!

During the last several years, IPA has analyzed approximately 350 IT capital projects from around the world. These projects include a range of project types that include software development, implementation of purchased software packages, hardware and infrastructure installations, telecommunications systems, and work process design.

The ***Front-End Loading Excellence in IT Projects*** workshop incorporates findings from IPA's Information Technology database to understand what drives IT project success. The fundamentals of Front-End Loading (FEL) and tools that can be used to improve the quality of definition and team development will be presented. The workshop is divided into five modules that provide details for the Best Practices that drive competitive and predictable IT projects: Business planning, team development, FEL, practices that improve customer satisfaction, and project controls. The workshop is interactive and includes the presentation of practices linked to improved FEL and case studies that allow participants to apply the learnings presented.

The workshop is targeted for all functions involved in defining, planning, and executing IT capital projects, including representatives from business and operations. This 1.5-day workshop can be customized to meet your organization's needs. To view registration details and to learn about special discounts, please visit **www.IPAInstitute.com** or call **+1 (703) 729-8300**.

THE IPA INSTITUTE
ADVANCING PROJECT KNOWLEDGE

REGIONAL SPOTLIGHT: *IPA Singapore*

Research Highlights: Executing Projects in Asia

Galvin Singh

From the 1990s to the present, capital project investment in Asia has grown significantly and IPA's participation in the region has grown proportionately ***(Figure 1)***. With Asia set to lead the global recovery, driven in large part by investment in capital assets for energy and energy-intensive commodities and specialty manufacturing, Western and multinational companies are both competing against and cooperating with local Asian companies to tap into the region's rapid growth. A recently completed IPA study of onshore megaproject developments predicts a coming increase in global megaproject spending that is expected to be more rapid than in the boom period from 2005 to 2008. Up to half of this project activity is expected to take place in Asia.

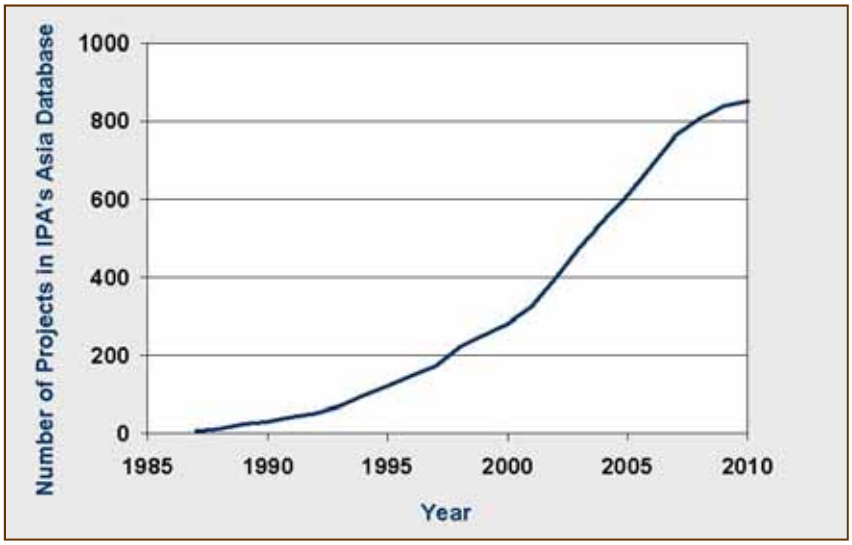

Figure 1. **Growth of IPA's Asia Projects Database (*Exploration & Production and Downstream)***

There is strong interest by Western companies in learning the local practices that make projects successful in the region while adhering to strong quality and safety standards. Additionally, there is strong interest by Asian companies in learning from global Best Practices as they look to expand their operations to the rest of the word.

IPA's Singapore office, established in 2006, combines IPA's global research with local knowledge to provide a wealth of information for companies looking to invest within the Asian region. IPA Singapore functions as the center of excellence for project expertise in Asia with its continually growing database of projects executed in Asia that is geographically widespread, detailed, and covers a wide range of industries ***(Figure 2)***. This provides a platform for our client engagements to understand the drivers of excellent capital project performance supported by research and benchmarking of Asia projects.

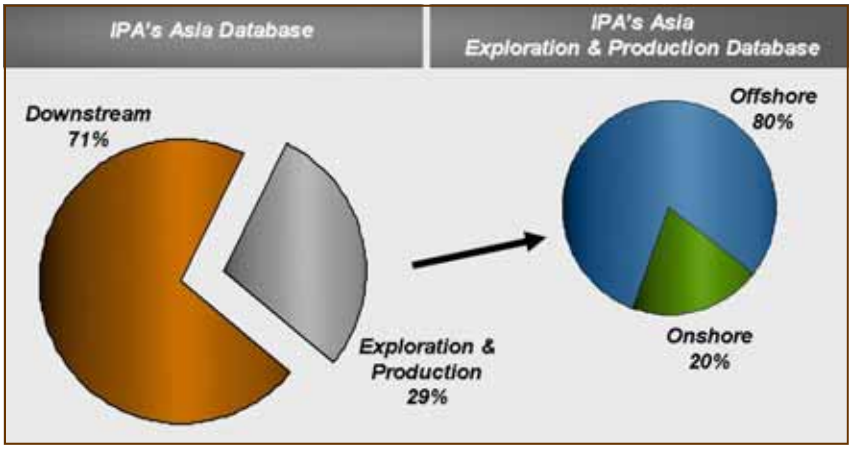

Figure 2. **Projects in IPA's Asia Database**

IPA recognizes that a wide range of issues affect capital projects in Asia. While there are common threads that run through the region, some issues are specific to individual countries or can vary in importance depending on the country the project is being executed in. For example, skilled construction labor availability concerns are starting to arise in rapidly aging Japan, whereas Singapore and Malaysia have policies in place that allow these countries to tap into the huge regional labor market by importing and training transient workers. A second example is the level of infrastructure development to support project execution, which ranges from areas where it is weak and developing slowly (Indonesia, Philippines, etc.) to areas where it is rapidly developing (India, Vietnam, etc.) and others where it already developed (Korea, Taiwan, etc.).

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IPA's study of this dynamic, evolving region is ongoing, but below we provide some highlights of our regional and country-specific findings:

Contracting in Asia

The use of a lump-sum EPC contracting strategy is more widely used in Asia than in other parts of the world. With this strategy, the owner company typically hands over project delivery to a main contractor who then completes the work via multiple unit rate subcontracts. Globally, EPC contracts can attract a hefty risk premium, which then drives up the overall project cost. However, IPA has examined the effectiveness of the EPC lump-sum strategy within the regional environment and the results indicate that the lump-sum EPC approach can be cost effective in Asia. The major EPC players in the Asian contracting space are large Japanese and Korean companies that pool risk on projects with vendors, subcontractors, and business group members. They are therefore able to bid more aggressively, which then forces other (mainly Western) contractor's bids down as well to stay competitive.

Whether in Asia or somewhere else in the world, owner companies often make the mistake of adopting a "hands-off" stance on these projects, believing that it is in the contractor's interest to deliver the project as best it can. In addition, companies that typically use other contracting strategies may not have the necessary experience to handle lump-sum EPC contracts. However, regardless of penalties and/or incentives in the contract terms and conditions, it is the owner companies that ultimately bear the brunt of cost overruns, schedule delays, and operability issues in capital projects. Hence, even in Asia, companies need to be aware of the specific practices that drive success with lump-sum EPC contracts.

Executing Capital Projects in China

As much of the world's manufacturing moves to China, companies often need to quantify the savings they should expect for their new processing/manufacturing facilities. A persistent common belief is that projects can be completed in China at a cost that is 30 to 50 percent cheaper than if they were built in the United States or Europe. IPA found that this premise is wrong. Using data from over 120 capital projects executed by 37 American and European companies in China, an IPA study found that the costs for processing plants in China executed by Western owners are actually just 10 to 30 percent cheaper when they are designed to meet Western quality, operability, and safety standards, and are resourced to protect the owner company's intellectual property. Preliminary analysis suggests that these cost savings are likely to be similar for other parts of developing Asia that have similar wage levels and productivities as China.

IPA's China study also highlighted a number of practices that lead to better project outcomes in China, including the best use of local content, onshore procurement, and coordination with the Chinese Design Institutes and other local contractors. IPA's clients leverage this understanding to build their capabilities in the region and to understand how they are performing relative to their peers in terms of project practices and outcomes.

Executing Capital Projects in Indonesia

In Indonesia, getting regulatory approval for various stages of exploration and production is on the critical path of oil and gas projects. IPA has found that the delays in getting projects into execution in Indonesia resulting from difficulties in getting regulatory approval is significantly longer than in other Asian countries. Despite this, companies doing E&P work in Indonesia continue to base their commercial agreements and economic feasibility studies on schedules that do not make allowances for these delays. In other words, the expectations are unrealistic given the historical realities on the ground. The delays are linked to the production sharing contracts that are in place in Indonesia. These contracts are aimed at protecting the interest of the state and extracting economic rent from mineral assets by specifying how revenues are apportioned, providing terms for capital expenditure recovery, and imposing domestic content requirements, amongst other conditions. As projects get delayed, execution plans, including equipment procurement and installation vessel and rig availability, get derailed and cost estimates become outdated. The risk that these uncertainties resulting from regulatory approval delays places on capital projects must be quantified and communicated by the commercial side as well as by the teams charged

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with execution.
While the issues and practices previously described show tangible differences between the way projects are executed in different parts of the world, IPA's research shows that certain core principles remain unchanged regardless of the project's location. Having strong project teams that are integrated across stakeholder functions always forms the basis of successful projects. Similarly, the value of performing FEL to develop a sound basis for cost estimating and schedule planning is undiminished regardless of the project location or the contracting strategy chosen. Further, Asia-based projects face the same issues in planning and developing projects as those in other parts of the world.

Looking at projects via our unique vantage point, the path forward for IPA in Asia is to continue to strengthen our expertise along industry, country, and topical lines. We will achieve this by increasing the client work that we perform out of the Singapore office to match the remarkable growth in the region. IPA's Singapore office is committed to continuing region- and country-specific research and building tools that provide value to our clients in Asia as we partner with them in consistently

Professional Profile: *Galvin Singh, Project Analyst*

Since joining IPA in 2008, Galvin has evaluated projects of various sizes in refineries as well as chemical and LNG processing plants in North America, Australia, and across Asia. He has also led site benchmarkings for small project systems and delivered IPA Institute courses on Best Practices for small and plant-based projects. Galvin's area of work at IPA includes both the upstream and downstream aspects of oil and gas projects, with a focus on onshore developments. Prior to IPA, Galvin worked for a consulting firm performing analysis of team effectiveness and customer engagement for large, multi-market organizations. Galvin holds a Master of Economics from Macquarie University, Sydney, Australia, and a Bachelor of Commerce from the University of New South Wales, Sydney, Australia.

REGIONAL SPOTLIGHT: *IPA Australia*

IPA's 2010 National Breakfast Series

Kim Peirce and Joseph O'Brien

With limited corporate travel budgets, industry seminars and workshops are increasing in popularity as a chance for project professionals to combine opportunities for learning and networking. In this light, there are many industry event options for professionals to attend, and the question undoubtedly becomes:

Which event provides the best opportunity to gain new knowledge and engage with one's peers and competitors?

Last year, 180 project professionals across Australia attended IPA's 2009 Seminar Series to learn about IPA's latest research on Australian project performance compared with the global industry and to exchange ideas with their industry peers. The seminar resonated with Australian project professionals, with many finding the 2009 seminar of great value. John Bargiev from BHP Billiton, along with other attendees, suggested that the seminar series become a regular event on the West Coast. In response, the 2010 National Breakfast Series was developed and will be held around the country this year, with the addition of Sydney on the bill.

The initial premise for holding the 2009 Seminar Series was the publication of an IPA paper entitled *Performance of Capital Projects in Australian Processing Industries.* This paper showed that Australian stay-in-business (SIB) project performance between 1998 and 2008 was worse across almost all measures compared with its European and North American peers—project costs were 11 percent more expensive, schedules were 9 percent longer, and Lost Time Incident (LTI) rates were two times higher.

From analyzing feedback from the 2009 seminars, it became clear that attendees gained significant value from learning about IPA's research relevant to the Australian industry as well as unique insight into the performance of their peers and competitors compared with the global industry. An update of the data presented in 2009 shows that Australian project performance is still lagging that of its overseas peers and competitors, but it has improved. If we take a snapshot of Australian

(Continued on page 7)

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project performance between 1998 and 2007 and between 2008 and 2010 ***(Figure 1)***, absolute cost performance has improved by 2 percent, while absolute schedule performance is 19 percent better. More importantly, safety performance also appears to have improved--between 2008 and June 2010, none of the SIB projects collected by IPA have had an LTI.

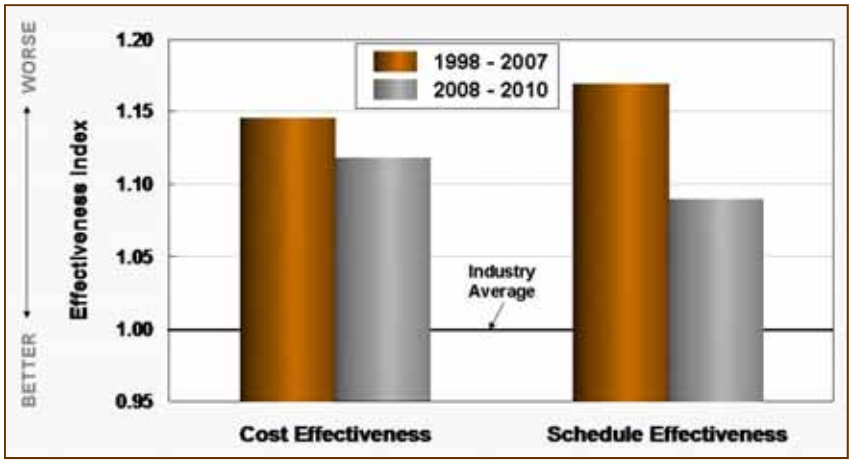

Figure 1. **Snapshot of Cost and Schedule Performance for Australian SIB Projects**

As part of the 2010 National Breakfast Series, IPA will share additional performance metrics for Australia (SIB) projects as well as the performance drivers. Data on Australian mining, megaproject, and upstream project performance will also be presented.

IPA's 2009 Seminar Series was also valued by the attendees because of the large attendance of industry professionals that provided significant networking opportunities. The inexpensive cost of the seminars boosted attendance and provided a platform for robust discussions with project professionals from both government and private enterprises. The 2010 National Breakfast Series aims to take the event one step further by following a dynamic format of three 20-minute presentations followed by discussion time, allowing attendees to interact with keynote speakers and ask industry-related questions...all before their day at work begins!

In an effort to get industry professionals thinking outside the box, we will be featuring a special guest speaker who is a project manager from outside the heavy processing industry. Bill Leimbach is the producer and ultimate project manager of the Australian feature film **Beneath Hill 60.** Bill will explore issues such as project leadership, community engagement, planning, logistics, cost control, execution risk management, and various other project issues faced by *all* project professionals in their efforts to deliver successful projects. Attendees will discover that there are many parallels between Bill's role in producing Beneath Hill 60 and the role of the owner project manager. Bill's presentation will make attendees think about their role from a different perspective.

The ***2010 Breakfast Series*** will held across Australia over September and October 2010. The event costs A$200 per participant and includes breakfast. To register, please visit ***www.ipaglobal.com/events*** to download the registration form. Send your completed form to ***ipaseminar2010@ipaglobal.com***.

Professional Profile: *Kim Peirce, Project Analyst*

Since joining IPA in 2007, Kim has become involved with a wide cross-section of project evaluations, including megaproject assessments, site benchmarkings, and analyses of petrochemical, refining, and minerals projects. Kim is also the Asia-Pacific Regional Coordinator for the IPA Institute. Kim earned a Bachelor of Arts in China Studies from the University of South Australia, Adelaide, Australia.

Professional Profile: *Joseph O'Brien, Project Analyst*

Joseph joined IPA in 2006 and currently serves as the Client Coordinator for one of the leading global mining houses. Joseph is primarily involved with the minerals industry, and has evaluated the Mine FEL of over 20 mine developments. In addition, he has analyzed chemical, petro-chemical, and refining projects ranging from small to complex, billion dollar projects across Africa, Asia, and Australia. Prior to joining IPA, Joseph worked as a Geotechnical Engineer for a major international consultancy and as a mine geologist, mine planner, and geotechnical engineer for a major mining house. Joseph holds a Bachelor of Engineering (Geological) from RMIT University, Melbourne, Australia, and is a member of the Australasian Institute of Mining and Metallurgy (MAusIMM).

Benchmarking Contract Terms and Conditions

Seeking to Balance Risk Transfer and Bid Competitiveness

Christopher Mullaly

Contract terms and conditions can, and do, have a significant influence on project performance. Through terms and conditions, the owner allocates (or attempts to allocate) project risk to the contractor. The extent to which risk is transferred affects the attractiveness of the opportunity to the contractor and the bids that come back. As the owner passes more risk to the contractor, the contractor prices the additional risk and submits a higher bid. For this reason, contract terms and conditions affect bid competiveness. The competitiveness of the bid, in turn, impacts the project's overall cost competitiveness.

IPA is developing a new approach to benchmarking contract terms and conditions. The intent is to quantify the extent to which the owner is attempting to pass risk through the terms and conditions. We will then identify those categories of terms and conditions that have the largest impact on the number of bids received and on the competitiveness of the bids received. Ultimately, we will enable the owner to customize its contract terms and conditions to match the preferred balance between risk transfer and bid competitiveness on any engagement.

Our benchmarking approach began with the identification of 20 categories of terms and conditions. These are categories of terms and conditions that exist in most contracts and that generally impact risk transfer. We refer to these categories as "points."

Risk Transfer Impact Points

- **Contractor's Scope of Work**
- **Ability of Owner to Influence Contractor's Work**
- **Ability of Third Parties to Influence Contractor's Work**
- **Site Conditions**
- **Contract Price**
- **Payment Terms**
- **Turnover and Process Guarantees**
- **Guaranteed Completion Dates and Liability for Delay**
- **Force Majeure**
- **Time Extension Rights and Processes**
- **Change Order Process**
- **Owner's Project Controls**
- **Warranty**
- **Indemnification**
- **Breach of Contract by Contractor**
- **Breach of Contract by Owner**
- **Liability Framework**
- **Dispute Resolution Process and Choice of Law**
- **Performance Security**
- **Unusual Commercial Risks**

For each of the points, we have established specific criteria for an "industry average" score. We have established a scoring range of 1 to 9 and have temporarily set the industry average at a score of "5." As shown in ***Figure 1***, if a company's contract attempts to pass more risk than average (around a given point), the score for that point will be higher. If the contract attempts to pass less risk than average (around a given point), the score will be lower.

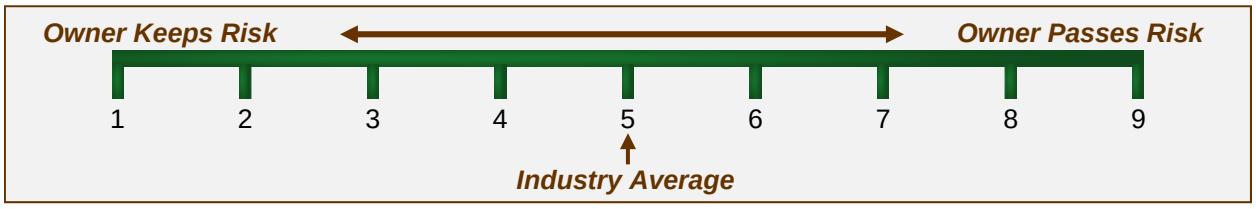

Figure 1. **Terms and Conditions Rating**

Using this approach, we will quantify each of the 20 points in any contract that we receive. Initially, the directional ratings (higher or lower than 5) will be relative to the "industry average" criteria, while the specific ratings (e.g., 7 versus 8) will be based on the expert opinion of our staff and subcontractors. Over time, we will develop criteria not only for the directional ratings, but for the specific ratings as well (e.g., so that we may objectively, as opposed to subjectively, differentiate between a score of 7 and 8).

After we have rated each of the individual points in a contract, we will roll the points into bid indices. Currently, we have identified two distinct indices. The first, the Bid Number Index (BNI), will capture the points that correlate with a contractor's willingness to bid at all. We have temporarily identified 5 of the 20 points as belonging in the BNI.

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The second index, the Bid Competitiveness Index (BCI), will capture the points that correlate with the competitiveness of contractor bids. (We will likely measure bid competitiveness by comparing the bid price versus the owner estimate.) We have temporarily included all 20 points in the BCI.

We have already piloted the above steps on one of the largest construction projects in the world. As we collect more contracts, our ability to benchmark terms and conditions will become even more robust. Additional data will allow us to perform the following:

1. **Develop criteria for the specific ratings**
2. **Validate each point's inclusion or exclusion in an index**
3. **Identify the relative weighting of each point in each index**
4. **Identify points with the largest impact on bid competitiveness and number of bids received**

For more information regarding IPA's approach to benchmarking contract terms and conditions, please contact **Christopher Mullaly**, Senior Project Analyst, at **cmullaly@ipaglobal.com** or **Dean Findley**, Regional Director of North America, at **dfindley@ipaglobal.com**.

IPA Introduces *Construction Readiness Assessment (CRA)*

IPA has begun testing a new product that will help capital project teams better position their projects for success as the project approaches field construction. The product is based on an extensive research study conducted during 2009 and presented at the Industry Benchmarking Consortium (IBC) in March 2010.[1] A *Construction Readiness Assessment* (CRA) is designed to quickly identify gaps in project development that should be improved prior to construction mobilization. The benefits are substantial as productivity is enhanced along with work quality.

What Is the Problem?

Based on IPA's capital projects database and the qualitative comments of many owner companies, about 30 percent of capital projects begin field construction too early when the projects are simply not ready. Initiating construction too early results in inefficient execution, which is typically very costly. Surprisingly, the vast majority of owner companies do not have a process to verify that projects are prepared to begin construction. Project teams feel the pressure to demonstrate progress by getting field activities started. A CRA provides an independent check to ensure projects are ready to begin the most expensive phase of capital project development. A CRA provides a quantified assessment of the status of Engineering, Procurement, and Construction as well as the overall integration of the three phases. Recommendations are provided to rapidly close identified shortcomings.

How Does a CRA Work?

A CRA is an application of capital project research. A CRA is conducted over 4 days in four steps—Prepare, Interview, Analyze, and Deliver. The ***preparation*** is key as IPA and the client project team exchange information and get up-to-speed on the challenges facing the project. The data collection ***interview*** is performed in a face-to-face setting with the core project team using a structured workbook for processing the information exchange. The ***analysis*** applies the results of the research study noted above to identify and quantify gaps in project execution practices. Finally, the results of the analysis are packaged into a briefing that is then delivered to the team. The briefing ***delivery*** becomes a workshop focused on improving the project prior to mobilizing construction.

IPA is currently in the process of piloting, or testing, the CRA. This involves using a new data collection workbook, applying new methods for internally reviewing our work to ensure consistency, and testing the method of delivering results in a workshop setting. If your company would like to participate in this initial phase, please contact ***Dean Findley***, Regional Director of North America, at ***dfindley@ipaglobal.com*** or ***José Hung***, Project Analyst, at ***jhung@ipaglobal.com***.

[1] *Construction Readiness*, IPA, IBC 2010, March 2010.

Upstream Industry Benchmarking Consortium (UIBC)

The Upstream Industry Benchmarking Consortium (UIBC) provides an independent forum for each participating company to view its performance against the performance of other companies. The consortium highlights Best Practices, reinforcing their importance in driving improvements in asset development and capital effectiveness. Consortium attendees learn ways to improve specific elements of capital project execution through presentations and other more interactive discussions.

DETAILS: Annual meeting of the UIBC 2010 will be held ***November 8 - 10, 2010,*** at the ***Hilton McLean in Tysons Corner, Virginia***.

2010 AGENDA: The agenda focuses on the long-term UIBC vision of sharing performance results and practices in all aspects of E&P asset capital effectiveness, and was prepared with the guidance of the UIBC Steering Committee.

Performance Metrics

The centerpiece of the UIBC conference is the sharing of asset development outcomes and practices of the participating project systems. The plenary metrics sessions will highlight overall industry trends and overall metrics as well as company metrics. In addition, breakout sessions will be held to discuss company-specific performance.

Upstream Megaprojects Revisited

Updates the range of IPA's megaproject research to include megaprojects executed during the recent volatile project environment. The research is predicated on the observation that larger, complex projects are not as robust as one might assume because of their size, but are, in fact, fragile undertakings. The study will present lessons learned and Best Practices for more effective shaping and execution of megaprojects.

Understanding Production Attainment Performance

Examines the robustness of the production estimate. Studies how the quality of the estimate and assumptions used to build the estimate drive production attainment. This study explores the link between reservoir complexity, appraisal, definition, and the reliability of the production forecast. A root cause analysis of production attainment shortfalls will be conducted.

Measuring Depletion Intensity

This study intends to distinguish the inherent reservoir component of cost per BOE; i.e., the base level of capital required to deplete the reservoir from investment-scale decisions - capital spent to shift future production toward the present. The study will explore drivers of these investment-scale decisions, including any systematic biases in NPV input assumptions (project cost, production expectations, and commodity prices).

Benchmarking Onshore E&P Developments

Explores the relationship between project drivers and outcomes for onshore E&P projects. The findings will be based on recently developed cost tools for onshore projects, including wells, flowlines, processing facilities, and storage and transportation facilities.

For more information about the research topics and conference content, contact **Rolando Gächter**, Manager Exploration and Production Business Area, at **+1 (703) 726-5324** or **rgachter@ipaglobal.com**. For logistical information, contact **Ellie Reynolds** at **+1 (703) 726-5471** or **ereynolds@ipaglobal.com**.

2010/2011 IPA Institute Program Schedule

THE IPA INSTITUTE
ADVANCING PROJECT KNOWLEDGE

To view full course descriptions, pricing, up-to-date registration details, and special discounts, please visit our website at www.IPAInstitute.com

Best Practices for Small and Plant Projects (22 Professional Development Units)

September 21 - 23, 2010: Kuala Lumpur, Malaysia
November 16 - 18, 2010: Beijing, China
November 23 - 25, 2010: Sydney, Australia
March 16 - 18, 2011: Perth, Australia

Best Practices for Mining Projects (16 Professional Development Units)

September 28 - 29, 2010: Perth, Australia
April 13 - 14, 2011: Brisbane, Australia

Executing Successful Complex/Megaprojects (18 Professional Development Units)

October 5 -7, 2010: Houston, Texas
May 18 - 20, 2011: Perth Australia
May 30 - June 1, 2011: Kuala Lumpur, Malaysia

Project Management Best Practices (22 Professional Development Units)

October 12 - 14, 2010: Singapore, Singapore
October 26 - 28, 2010: Rio de Janeiro, Bra-
November 10 - 12, 2010: Reading, England
November 24 - 26, 2010: Johannesburg, South Africa
September 6 - 8, 2011: Singapore, Singapore

Practices for Shorter, More Cost Effective Turnarounds (14 Professional Development Units)

October 12 - 13, 2010: The Hague, The Netherlands

Contracting in the Changing World of Projects (12 Professional Development Units)

October 27 - 28, 2010: São Paulo, Brazil
November 17 - 18, 2010: Santiago, Chile

Exploration and Production Project Best Practices (22 Professional Development Units)

November 23 - 25, 2010: Rio de Janeiro, Brazil
November 30 - December 2, 2010: Anchorage, Alaska
June 1 - 3, 2011: Kuala Lumpur, Malaysia
July 12 - 14, 2011: Perth, Australia

Establishing Effective Capital Cost and Schedule Processes (16 Professional Development Units)

October 4 - 5, 2011: Kuala Lumpur, Malaysia

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