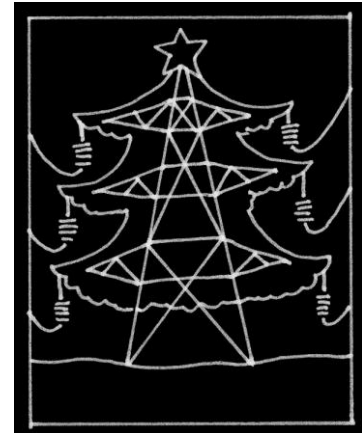


## IPENZ ENGINEERING UPDATE Nov/Dec 2007

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design by Kat McAra

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## Management/Leadership/Strategic Planning/Recruitment/Training and Development/Project Management/Corporate Responsibility

### √IPENZ 09/01 CHINA + INDIA The power of two.

Khanna, T. Harvard Business Review, Volume 85 Issue 12, (December 2007) Pages 60-69.  
China and India are burying the hatchet after four-plus decades of hostility. A few companies from both nations have been quick to gain competitive advantages by viewing the two as symbiotic. If Western corporations fail to do the same, they will lose their competitive edge – and not just in China and India but globally. Some companies have already developed strategies that make use of both countries' capabilities. India's Mahindra & Mahindra developed a tractor domestically but manufactures it in China. China's Huawei has recruited 1,500 engineers in India to develop software for its telecommunications products. Even the countries' state-owned oil companies, including Sinopec and ONGC, have teamed up to hunt for oil together. Multinational companies usually find that tapping synergies across countries is difficult. At least two American corporations, GE and Microsoft, have effectively combined their China and India strategies, allowing them to stay ahead of global rivals

### √IPENZ 09/02 Solve the succession crisis by growing inside-outside leaders.

Bower, J. Harvard Business Review, Volume 85 Issue 11 (November 2007) Pages 90-96.  
In his analysis of 1,800 successions, Harvard Business School professor Bower found that companies performed significantly better when they appointed insiders to the job of CEO. Other researchers, including Jim Collins in Good to Great, have come to similar conclusions working from different data sets. Yet Bower finds far too many companies have no succession plans; as a result, when the time comes to name a new chief executive, more firms turn to outsiders. Both insider and outsider CEOs have strengths and weaknesses at the start. Insiders know the company and its people but are often blind to the need for radical change. Outsiders see the need for a new approach but can't make the necessary changes because they don't know the organization or industry sector well enough. What companies must do, then, is find a way to nurture what Bower calls inside-outsiders – internal candidates who have outside perspective.

### √IPENZ 09/03 Managing productivity.

Borton, G. Management Services, Volume 51 Issue 3 ((Autumn 2007) Pages 28-33.  
The employee job life cycle has an impact on productivity. The author suggests new hiring strategies, reward and recognition programmes that may increase productivity by 10-30%, and at the same time increase quality.

### √IPENZ 09/04 Mind tricks to explore your brain.

Lawton, G. New Scientist, Volume 195 Issue 2622 ( 9/22/2007) Pages p34-41.

### √IPENZ 09/05 The poor performer confrontation handbook: Eight rules for dealing with employees who are bringing your company down.

Sujansky, J. Cost Engineering, Volume 49 Issue 8 (August 2007) Pages 14-15.

√IPENZ 09/06 **Benefits to make staff HAPPY.**

Employee Benefits (October 2007) Pages 53-56.

A UK perspective on benefits that have an impact on an employee's happiness. Based on research conducted for the Employee Benefits Exhibition and Conference by YouGov.

√IPENZ 09/07 **Seven sleep myths; achieving goals –avoid 10 common traps.**

Personal Excellence, Volume 12 Issue 11 (November 2007) Pages 6,9.

√IPENZ 09/08 **The office of strategy management.**

Kaplan, R and Norton, D. Harvard Business Review, Volume 83 Issue 10 (October 2005) Pages 72-80.

There is a disconnect in most companies between strategy formulation and strategy execution. On average, 95% of a company's employees are unaware of, or do not understand, its strategy. If employees are unaware of the strategy, they surely cannot help the organization implement it effectively. For the past 15 years, the authors have studied companies that achieved performance breakthroughs by adopting the Balanced Scorecard and its associated tools to help them better communicate strategy to their employees and to guide and monitor the execution of that strategy.

√IPENZ 09/09 **The human touch.**

Hudson, V. Industrial Engineer: IE, Volume 39 Issue 9 (September 2007) Pages 40-44.

The significance of interpersonal relationships in a cross-cultural team is discussed. Managing time across cultures is one option, and some companies are recognizing the diverse culture of their employees, by celebrating events like Chinese New Year and Ramadan.

√IPENZ 09/10 **Corporate and stakeholder responsibility making business ethics a two way conversation.**

Goldstein, J and Wicks, A. Business Ethics Quarterly, Volume 17 Issue 3 (July 2007) Pages 375-398.

√IPENZ 09/11 **Corporate responsibility in emerging markets.**

Baskin, J. Journal of Corporate Citizenship, Issue 24 (Winter 2006) Pages 29-47.

√IPENZ 09/12 **Governance for sustainability.**

Elkington, J. Corporate Governance : an International Review, Volume 14 Issue 6 (November 2006) Pages 522-529.

√IPENZ 09/13 **The challenge of greening global product chains : meeting both ends.**

Vermeulen, W and Ras, P. Sustainable Development, Volume 14 Issue 4 (October 2006) Pages 245-256,

√IPENZ 09/14 **Mentoring in engineering.**

Russell, Jeffrey S. Leadership & Management in Engineering, Volume 6 Issue 1 (January 2006) Pages 34-37.

√IPENZ 09/15 **Are you spending your time the right way?**

Raffoni, M. Harvard Management Update, Volume 11 Issue 7, (July 2006) Pages 3-4.

Time is always a scarce resource for managers and employees. A three step plan for allocating time wisely and strategically is outlined.

√IPENZ 09/16 **Human Systems Engineering™: A Trilogy, Part I: Elephant in the living room.**

Hayden, W. Leadership & Management in Engineering, Volume 4 Issue 2 (April 2004) Pages 61-71.

Part I of a trilogy. Discusses reliable delivery of projects, including meeting client and other stakeholder expectations. The remaining parts II and III of this trilogy are titled “May the Force Be with You: Anatomy of Project Failures,” and “Managing Projects Successfully in a World of Uncertainty.”

√IPENZ 09/17 **Human Systems Engineering™— A Trilogy, Part II: May the force be with you: Anatomy of project failures.**

Leadership & Management in Engineering, Volume 6 Issue 1 (January 2006) Pages 1-12.

Part II of a trilogy. Research was conducted at three professional engineering firms. Looks at unexpected conflict within a project team.

√IPENZ 09/18 **Training a green workforce.**

Jarventaus, J. T+D Training and Development, Volume 61 Issue 9 (September 2007) Pages 29-34.

Workplace learning and performance professionals are helping employees leap onto the green bandwagon.

√IPENZ 09/19 **10 green opportunities.**

E: the Environmental Magazine, Volume 18 Issue 6 (November/December 2007) Pages 28-33.

√IPENZ 09/20 **Building a better future: Government LEEDS the way.**

Case, S. Government Procurement, (June 2006) Pages 2.2 - 2.9.

Green building and procurement by government organisations.

√IPENZ 09/21 **Catch the express train.**

Smedley, T. People Management, Volume 13 Issue 20 (2007) Pages 26-29.

Network Rail is aiming to become a world class company and is investing in a wide range of training and development initiatives, including an apprenticeship scheme. It is overall winner of the People Management Award 2007.

**√IPENZ 09/22 The Next 20 Years: How Customer and Workforce Attitudes Will Evolve.**

Howe, N and Strauss, W. Harvard Business Review, Volume 85 Issue 7/8 (July/August 2007) Pages 41-52.

Business projects with very long time horizons—such as those involving product R&D, workplace design, and total compensation planning—have to contend with a crucial question: What will be the needs, demands, and desires of consumers and employees decades from now? Extensive research by the authors has revealed a fascinating pattern. Three of the generations will still be vital forces in American society 20 years from now: Boomers, Generation X, and Millennials. Their attitudes and behaviors will have profound effects on the economy, the workplace, and social institutions in general.

**√IPENZ 09/23 Special report : Progressive project delivery.**

ENR 12 November (2007) Pages 22-24,26-28,34-35

Contents

- London Subway Project derails team (self-performing consortium learns bitter lesson with changing project conditions)
- At Gilbane, ethics, education and advocacy build consistently good service.
- Teamwork can tame construction hazards

**Technical Aspects of Engineering –Abstracts for most available upon request.**

**IPENZ 09/24 Property stigma : wind farms are just the latest fashion.**

Sims, S and Dent P. Journal of Property Investment and Finance, Volume 25 Issue 6 (2007) Pages 626-651.

**√IPENZ 09/25 Change in public attitudes towards a Cornish wind farm: Implications for planning.**

Eltham, D et al. Energy Policy, Volume 36, Issue 1 (January 2008) Pages 23-33.

**√IPENZ 09/26 LEEDING the charge in hospital design.**

Wasserman, S. Environmental Design & Construction, Volume 10 Issue 8 (August 2007) Pages 40-43.

New hospital environmentally designed to meet LEED requirements.

**√IPENZ 09/27 Designing Hospital Pharmacy HVAC Systems**

Rousseau, C and Bare, A. ASHRAE Journal, Volume 49, Issue 2 (February 2007) Pages 36-46.

√IPENZ 09/28 **Towards a sustainable campus.**

Thompson, Q. Environmental Design & Construction, Volume 10 Issue 9 (September 2007) Pages 30-34.

This sustainably designed building includes a vegetated roof to absorb uncollected rainwater. The building is designed to achieve 34% more energy savings than a code compliant standard construction.

√IPENZ 09/29 **Bicycle messengers: energy expenditure and exposure to air pollution.**

Bernmark, E. Ergonomics, Volume 49 Issue 14 (15 November 2006) Pages 1486-1495.

√IPENZ 09/30 **Is Compact Growth Good for Air Quality?**

Stone, B et al Journal of the American Planning Association, Volume 73 Issue 4 (Autumn 2007) Pages 404-418.

Planning research which is part of an EPA-sponsored study titled "Projecting the Impact of Land Use and Transportation on Future Air Quality (PLUTO)".

√IPENZ 09/31 **Efficient fix-ups.**

Westerkamp, T. Industrial Engineer: IE, Volume 39 Issue 9 (September 2007) Pages 45-49.  
Discusses maintenance management.

√IPENZ 09/32 **Probability-based bridge assessment.**

O'Connor, A and Enevoldsen, I. Proceedings of the Institution of Civil Engineers : Bridge Engineering, Volume 160 Issue BE3 (September 2007) Pages 129-137.

√IPENZ 09/ 33 **Innovative bankseat for new Highfiled Lane Bridge, UK.**

Proceedings of the Institution of Civil Engineers : Bridge Engineering, Volume 160 Issue BE3 (September 2007) Pages 1149-159.

√IPENZ 09/34 **Embankment supported on piles with biaxial geogrids.**

Almedida, S et al. Proceedings of the Institution of Civil Engineers : Geotechnical Engineering, Volume 160 Issue GE4 (October 2007) Pages 185-192.

√IPENZ 09/35 **Planning supply transport in port works.**

Berodia, J., dell'Olio, L and Portilla, A. Proceedings of the Institution of Civil Engineers : Maritime Engineering, Volume 160 Issue MA2 June 2007) Pages 65-73.

√IPENZ 09/36 **Scour in hydraulic engineering.**

Hager, W. Proceedings of the Institution of Civil Engineers : Water Management, Volume 160 Issue WM3 (September 2007) Pages 159-168.

√IPENZ 09/37 **Elastic analysis of ground-floor slabs under multiple loads.**

Abbas, A et al. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 160 Issues 3 (2007) Pages 151-164.

IPENZ 09/38 **The fire resistance of concrete structures of a typical LNG tank.**

Roetzer, J., Salvatore, D. Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE) Volume 17 Issue 1 (2007) Pages 61-67.

√IPENZ 09/39 **Stainless steel structures in fire.**

Gardner, L. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 160 Issue 3 (2007) Pages 129-138.

IPENZ 09/40 **Group decision-making for leakage management strategy of water network.**

Morais, D and Almeida, A. Resources, Conservation and Recycling, Volume 52, Issue 2, December 2007, Pages 441-459.

√IPENZ 09/41 **Cost-effective leakage reduction through district metering.**

Proceedings of the Institution of Civil Engineers: Water Management, Volume 160 Issue 3 (2007) Pages 181-187.

IPENZ 09/42 **A stable isotope approach for the quantification of sewer infiltration.**

Kracht, O., Gresch, M and Gujer, W. Environmental Science and Technology, Volume 41 Issue 16 (2007) Pages 5839-5845.

√IPENZ 09/43 **Prioritising sewerage maintenance using serviceability criteria.**

Arthur, S., Crow, H. Proceedings of the Institution of Civil Engineers: Water Management, Volume 160 Issue 3 (2007) Pages 189-194.

IPENZ 09/44 **A framework for evaluation of flood management strategies.**

Hansson, K., Danielson, M and Ekenberg, L. Journal of Environmental Management, Volume 86, Issue 3, (February 2008) Pages 465-480.

√IPENZ 09/45 **Does the price impact of flooding fade away?**

Lamond, J and Proverbs, D. Structural Survey, Volume 24 Issue 5 (2006) Pages 363-377.

√IPENZ 09/46 **Anaerobic membrane bioreactors: Applications and research directions.**

Liao, B., Kraemer, J and Bagley, D. Critical Reviews in Environmental Science and Technology, Volume 36 Issue 6 (2006) Pages 489-530.

√IPENZ 09/47 **Effect of cold-temperature shock on nitrification.**

Hwang, J and Oleszkiewicz, J. Water Environment Research, Volume 79, Issue 9 (September 2007) Pages 964-968.

IPENZ 09/48 **Probabilistic models for steel corrosion loss and pitting of marine infrastructure.**

Melchers, R and Jeffrey, R. Reliability Engineering and System Safety, Volume 93 Issue 3 (2008) Pages 423-432.

IPENZ 09/49 **Serviceability of earthquake-damaged water systems: Effects of electrical power availability and power backup systems on system vulnerability.**

Adachi, T and Ellingwood, B. Reliability Engineering and System Safety, Volume 93 Issue 1 (2008) Pages 78-88.

√IPENZ 09/50 **Toward reliability and quality for IP telephony applications in converged networks.**

Siliquini, J. Telecommunications Journal of Australia, Volume 57 Issue 1 (Autumn 2007) Pages 23-31.

√IPENZ 09/51 **VoIP Set to boom.**

Budde, P. Telecommunications Journal of Australia, Volume 57 Issue 1 (Autumn 2007) Pages 13-16.

√IPENZ 09/52 **Sustainability auditing.**

Coyne, K. Environmental Quality Management, Volume 16 Issue 2 (Winter 2006) Pages, p25-41.

√IPENZ 09/53 **Sustainable buildings: Energy performance data largely lacking.**

ENR 12 November (2007) Pages 10-11.

New buildings may be more energy efficient, but building energy use overall continues to rise.

IPENZ 09/54 **Energy savings through use of advanced biodegradable lubricants.**

Lea, C. Industrial Lubrication and Tribology, Volume 59 Issue 3 (2007) Pages 132-136.

IPENZ 09/55 **Operation and coordinated control of fixed and variable speed wind farms.**

J.L. Rodríguez-Amenedo, S. Arnaltes and M.A. Rodríguez Renewable Energy, Volume 33, Issue 3, (March 2008,) Pages 406-414.

IPENZ 09/56 **Energy capture by a small wind-energy conversion system.**

Applied Energy, Volume 85, Issue 1, (January 2008) Pages 41-51.

**IPENZ 09/57 Electric utility distribution analysis for extreme winds.**

Reed, D. Journal of Wind Engineering and Industrial Aerodynamics, Volume 96, Issue 1, (January 2008) Pages 123-140.

**IPENZ 09/58 Evaluation of the suitability of a fixed speed wind turbine for large scale wind farms considering the new UK grid code.**

Helw, H and Tennakoon, S. Renewable Energy, Volume 33, Issue 1, (January 2008) Pages 1-12.

**IPENZ 09/59 Pumping station design for a pumped-storage wind-hydro power plant.**

Anagnostopoulos, J and Papantonis, D. Energy Conversion and Management, Volume 48 Issue 11 (November 2007) Pages 3009-3017.

**IPENZ 09/60 Pumped storage systems introduction in isolated power production systems.**

Katsaprakakis, D. et al. Renewable Energy, Volume 33, Issue 3 (March 2008) Pages 467-490.

**IPENZ 09/61 Modeling of hybrid renewable energy systems.**

Deshmuk, M and Deshmukh, S. Renewable and Sustainable Energy Reviews, Volume 12, Issue 1 (January 2008) Pages 235-249.

**Special Focus on..... Financing Infrastructure / Public Private Partnerships****√IPENZ 09/62 What's the secret? Confidentiality in planning infrastructure using public/private partnerships.**

Siemiatycki, M. Journal of the American Planning Association, Volume 73 Issue 4 (Autumn 2007) Pages 388-403.

**√IPENZ 09/63 The role of PPPs in addressing road congestion.**

Saunders, M. Public Roads, Volume 71 (July/August 2007) Pages 22-27.

Private sector investments in the transportation system may help reduce gridlock on U.S. roadways.

**√IPENZ 09/64 Risk allocation in the private provision of public infrastructure.**

Ng, A., Loosemore, M. International Journal of Project Management, Volume 25, Issue 1 (2007) Pages 66-76.

**IPENZ 09/65 Public private partnerships: Incentives, risk transfer and real options.**

Alonso-Conde, A., Brown C and Javier, R. Review of Financial Economics, Volume 16 Issue 4 (December 2007) Pages 335-349.

**IPENZ 09/66 BOT viability model for large-scale infrastructure projects.**

Salman, A., Skibniewski, M and Basha, I. Journal of Construction Engineering and Management, Volume 133, Issue 1 (2007) Pages 50-63.

A successful BOT infrastructure project requires in depth analysis of a wide variety of issues, including economic, legal, social, environmental and financial aspects. A model to evaluate the feasibility of BOT projects is outlined. Three case studies are used to illustrate this model.

**IPENZ 09/67 Urban rail transit PPPs: Survey and risk assessment of recent strategies.**

Sock-Yong Phang. Transport Policy, Volume 14, Issue 3, (May 2007) Pages 214-231.

**IPENZ 09/68 Case studies of transportation public-private partnerships around the world final report.** Prepared by AECOM Consult, in association with DMJM Harris, FaberMaunsell, Maunsell of Australia, the National Council of Public-Private Partnerships, and the Ybarra Group,. Washington, D.C. U.S. Federation Highway Administration, 2007.

Focuses on PPP applications to transportation projects in England, Australia, New Zealand, Includes case studies.

Link to resource

[http://www.fhwa.dot.gov/PPP/int\\_ppp\\_case\\_studies\\_final\\_report\\_7-7-07.pdf](http://www.fhwa.dot.gov/PPP/int_ppp_case_studies_final_report_7-7-07.pdf)

**√IPENZ 09/69 Critical success factors of public private sector partnerships : a case study of the Sydney superdome.**

Jefferies, M. Engineering Construction & Architectural Management, Volume 13 Issue 5 (2006) Pages 451-462.

**√IPENZ 09/70 Improved PFI/PPP service outcomes through the integration of Alliance principles.**

C. Clifton and C.F. Duffield. International Journal of Project Management, Volume 24, Issue 7 (2006) Pages 573-586.

Comparisons from infrastructure projects in Australia exploring the management of PFI/PPP projects (private finance initiatives/public private partnership). Includes investigation of contract structure, risk management, successful governance.

**√IPENZ 09/71 Evaluating the effectiveness of State Department of Transportation investment decisions: Linking performance measures to resource allocation.**

Hendren, P and Niemeier, D. Journal of Infrastructure Systems., Volume 12 Issue 4, (December 2006) Pages 216-229.

√IPENZ 09/72 **Decision methodology for allocating funds across transportation infrastructure assets.**

Gharaibeh, N., Chiu, Y and Gurian, P. Journal of Infrastructure Systems, Volume 12 Issue 1 (2006) Pages 1-9.

√IPENZ 09/73 **Stakeholder management for public private partnerships.**

International Journal of Project Management, Volume 24 Issue 7 (2006) Pages 595-604.  
Discusses a semantic model and taxonomy for key concepts relating to stakeholder involvement in (PPP) public private partnership projects. Many projects have failed because of stakeholder opposition. A good system of capturing and addressing their inputs is crucial to the success of these projects.

√IPENZ 09/74 **Private-public partnership initiatives around the world : learning from experience.**

Ribeiro, K and Dantas A. IPENZ Transportation Conference, Queenstown, New Zealand, 2006.

Link to resource:

[http://ir.canterbury.ac.nz/bitstream/10092/211/1/12604296\\_Main.pdf](http://ir.canterbury.ac.nz/bitstream/10092/211/1/12604296_Main.pdf)

IPENZ 09/75 **Modelling and assessment of critical risks in BOT road projects.**

Thomas, A.V., Kalidindi, S.N., Ganesh, L.S. Construction Management and Economics, Volume 24, Issue 4 (2006) Pages 407-424.

BOT projects which are private infrastructure participation (PSP) developments have a complex risk profile and how the risks are managed can be a key to their success. These projects often have a very long project lifecycle and have specific country and sector risks. For this reason, the conventional risk assessment approaches may not be as effective. This paper proposes an alternative risk assessment model.

√IPENZ 09/76 **Is debt replacing equity in regulated privatised infrastructure in LDCs?**

Utilities Policy, Volume 14 Issue 2 (2006) Pages 90-102.

Describes the financing structure of regulated privatised utilities and transport companies. Reviews 121 utilities distributed over 16 countries ; 23 transport infrastructure operators and service operators distributed over 23 countries.

√IPENZ 09/77 **Governance issues in financing of public-private partnership organisations in network infrastructure industries.**

International Journal of Project Management, Volume 24, Issue 7, (October 2006) Pages 557-565.

√IPENZ 09/78 **Executive insights: relationship formation in international joint ventures: Insights from Australian-Malaysian international joint ventures.**

Styles, C and Hersch, L. Journal of International Marketing; 2005, Volume. 13 Issue 3 (2005) Pages 105-134.

√IPENZ 09/79 **How (in)accurate are demand forecasts in public works projects? The case of transportation.**

Flyybjerg, B., Holm, K and Buhl, S. Journal of the American Planning Association, Volume 71 Issue 2 (2005) Pages 131-137.

√IPENZ 09/80 **A framework for examining accountability and value for money in the UK's private finance initiative.**

Demirag, I., Dubnick, M and Khadaroo, J. Journal of Corporate Citizenship, Issue 15 (2004) Pages 63-76.

√IPENZ 09/81 **The governance of contractual relationships in public private partnerships.**

Grimsey, D and Lewis, M. Journal of Corporate Citizenship, Issue 15 (2004) Pages 91-109.

**IPENZ 09/82 Private financing of transport infrastructure : an assessment of the UK experience.**

Journal of Transport Economics and Policy, Volume 28 Issue 3 (2002) Pages 355-387.

√IPENZ 09/83 **The role of the facility manager in new procurement routes.**

El-Haram, M and Agapiou, A. Journal of Quality in Maintenance Engineering, Volume 8 Issue 2 (2002) Pages 124-134.

UK perspective. Public private finance—Procurement, operation and regulation of capital assets.

√IPENZ 09/84 **Evaluation viability of privatized transportation projects.**

Ashley, D et al. Journal of Infrastructure Systems, Volume 4 Issue 3 (1998) Pages 102-110.



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