

International Centre for Complex Project Management

Complex Project Management – Global Challenges for Science and Research

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Moscow

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www.iccpm.com

Presentation Outline

- Recap from 2012
- The Conspiracy of Optimism – Why Mega Projects Fail
- CPM Report – Summary of the Findings and Recommendations
- Future Directions in CPM Research
- Panel Discussion

The 21st Century Project Management Environment

The Problem and the Opportunity

- Only 40% of projects completed on time/budget
- Capacity to manage complexity identified as the No.1 issue for CEO's globally (IBM Global CEO Survey in 2009)
- Effect of complexity most apparent in non- technical areas of influence
- Organisations that manage complexity well outperform those who don't by a factor of 10 – managing projects as Complex Adaptive Systems



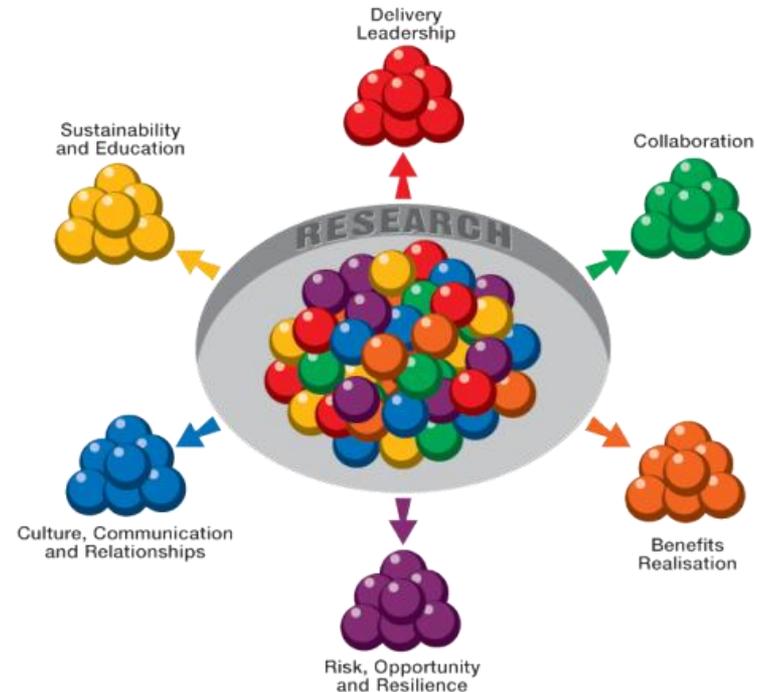
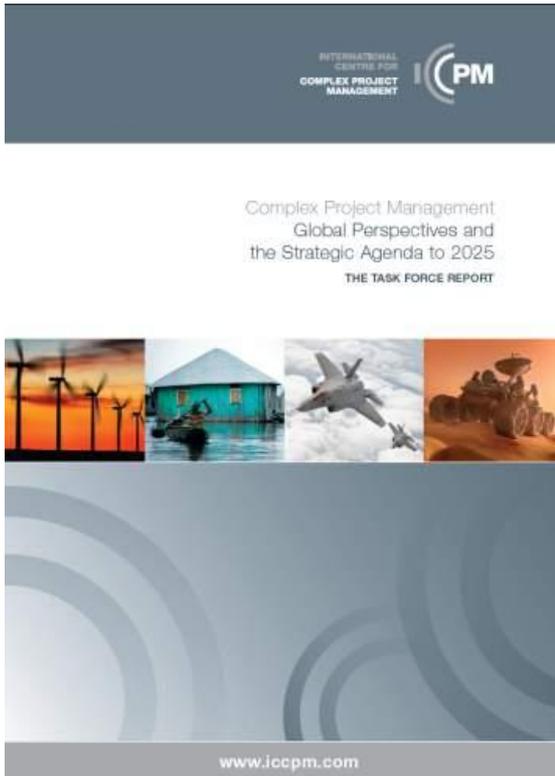
“The Conspiracy of Optimism”

Why mega projects fail:

- Unaccommodated or unaligned stakeholder view of success
- Tension between product success and project success (product vs outcome)
- Political and public relations pressure militating against doing the right thing
- Lack of understanding or acknowledgement of non-technical risk
- Use of competition as a weapon
- Institutionalised procurement practices
- Few project managers are equipped as project delivery leaders
- Lack of opportunity for engagement between government and industry
- Future capability (projects) are predicated on attaining rational estimates
- Current tools and decision processes unsuitable for analysing uncertainty
- Inevitability of scope creep (cost & schedule) especially if contract too early

Reference ICCPM Executive Roundtable Series 2009

CPM Report Main Themes



Policy recommendations – CPM Strategy

Action recommendations – Implement now

Report is the foundation for CPM Research Framework

Key CPM Report Recommendations

Delivery Leadership – Project Managers tend to be managers first and leaders more by happenstance, how to develop excellence in leadership for the few?

Collaboration – How to achieve EFFECTIVE collaboration with multiple parties across the barrier between Public and Private Sectors and between natural competitors?

Benefits Realisation – Focusing on true long term benefits in economic environments where “here and now” prevails with the major stakeholders?

Risk, Opportunity & Resilience – How to get acceptance of the cost of building in resilience? How to identify, acknowledge and accept risk within risk adverse hierarchies?

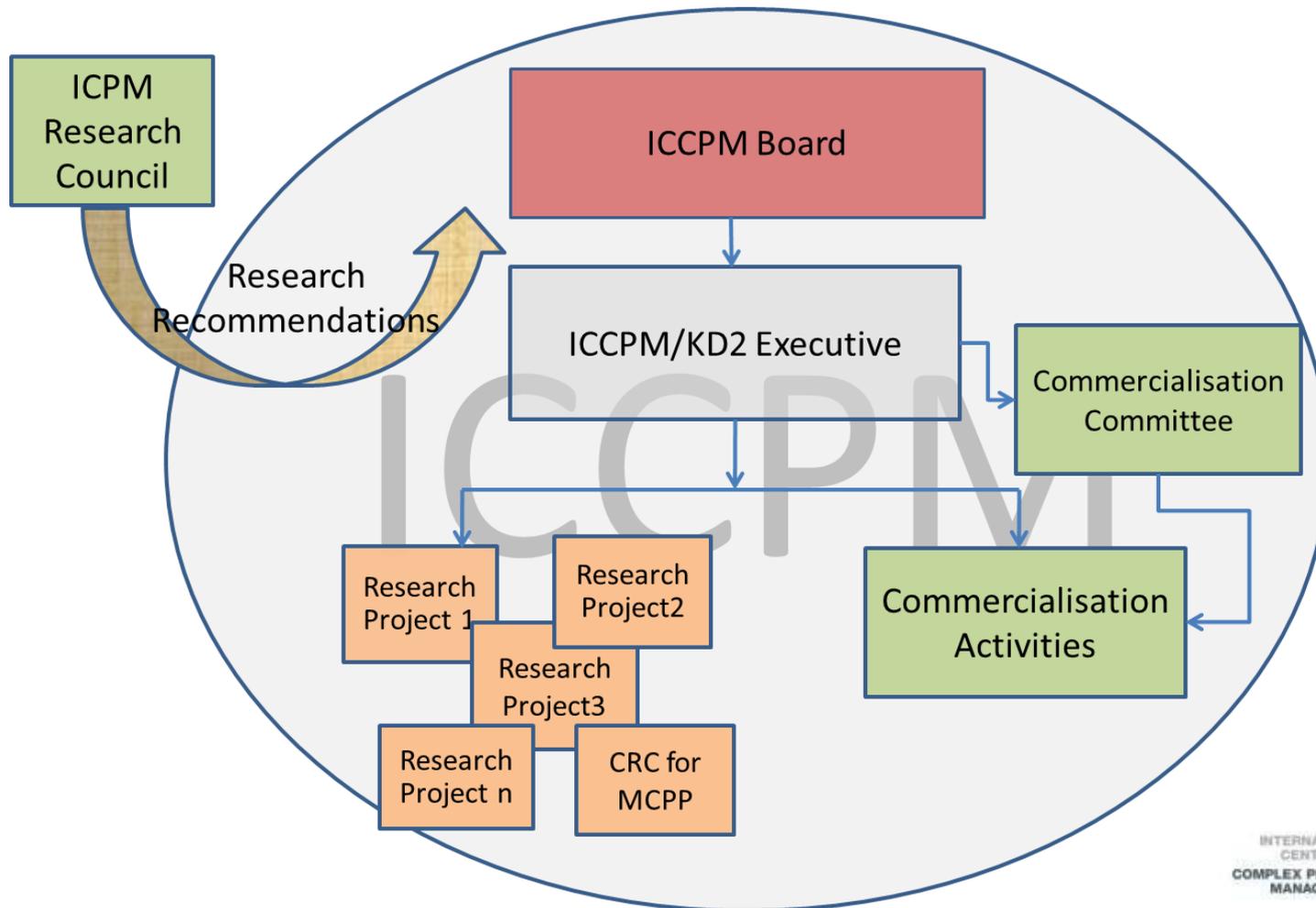
Key CPM Report Recommendations

Culture, Communication and Relationships – How to influence stakeholders? How to protect PMs when “unknown unknowns” are derogatory front page stories and effect short term stakeholder positions and assessment of value?

Sustainability and Education – The challenges of maintaining investment in developing knowledge and finding solutions during recessions

Research - New knowledge and practical solutions will be essential to developing and maintaining competitive advantage if not survival in the “new economy”

Knowledge Development and Dissemination – KD2 Structure



Future Directions in CPM Research

Researchers and End-User Relationship – End-user driven model of the Cooperative Research Centre for Managing Complex Projects and Programs

- Solving industry problems (new tools and solutions)
- Addressing workforce needs

Potential benefits from collaborative mode

- Access to pool of leading researchers
- Significant leverage of investment
- Mobilisation of research \$
- Increased credibility with customers
- Independent expert opinion
- Potential public relations benefits

5 Research Programs

- People
- Productivity
- Risk
- Systems Design
- Digital Ecologies



BUILDING FUTURE ORGANISATIONAL CAPACITY • INCREASING PRODUCTIVITY • REDUCING RISKS



People Program

A highly skilled, productive workforce with leaders able effectively to engage diverse project stakeholders and maintain innovative organisational cultures is essential to the success of complex projects (2013 PMI Pulse Report)



Key research themes:

- Leadership through Personal Capacity Building
- Wellbeing in Project Environment: Assess, Evaluate, and Redesign Team Structure and Processes
- Delivering complex infrastructure projects with more effective governance systems
- Stakeholder and team engagement and collaboration

Key research questions

1. What attributes, skills and practices best sustain successful leadership of complex projects and programs?
2. What strategies best sustain transparent, efficient and democratic team and organisation decision-making in the delivery of complex projects?
3. What governance mechanisms work best where and when?
4. How can the complexities of stakeholder relationships and issues management in complex projects be best delivered?

Productivity Program

Low productivity levels are adversely influencing the effective delivery of projects in Australia, particularly in the infrastructure and energy and mineral sectors. A 10% improvement in the performance of construction projects that are delivered can lead to an increase in Gross Domestic Product by 2.5% (in Australia).

Key research themes:

- Workforce planning and development model
- Effective procurement and contracting strategies
- Reduce impact or rework on productivity
- Resilient logistics and supply chain management



Key research questions

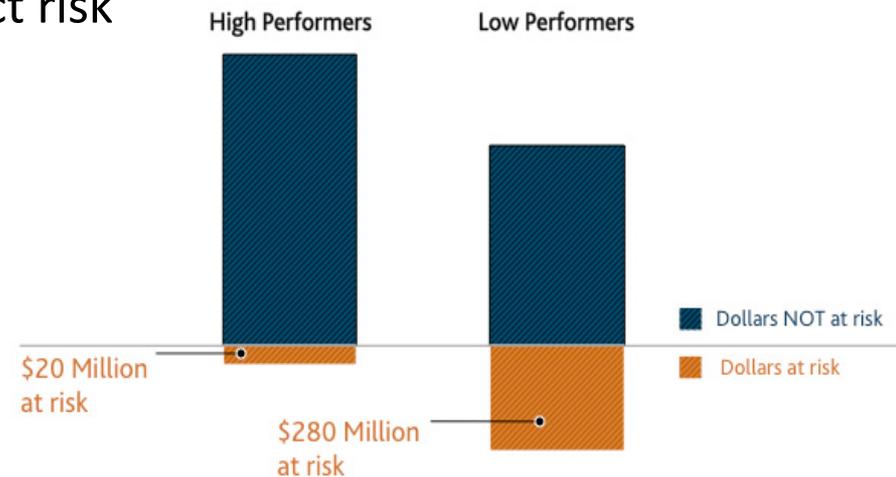
1. Why do complex projects consistently experience cost and schedule overruns?
2. How can the non-value adding activities that arise in complex projects be measured and therefore reduced/eliminated?
3. What underlying strategies, techniques and tools are required to enable productivity improvements in complex projects?

Risk Program

Projects exhibit high failure rates due to underestimating the extent of risk and complexity involved: according to the PMI's Pulse of the Profession – The High Cost of Low Performance report (March 2013) an average of 13.5% of project budgets are at risk, ranging from 2% for high performers to 28% for low performers

Key research themes:

- Understanding complexity and project risk
- Governance of risk
- Managing risk and opportunities



Key research questions

1. Why are complex project risks systematically mis-estimated and how can this be avoided?
2. How can risk governance structures be improved to support effective strategic decision-making?
3. How can we harmonize risk mitigation strategies with the exploitation of emergent opportunities?

Systems Design Program

The delivery of complex industry projects and government programs is challenged by a range of interconnected issues that tend to transcend the jurisdictions and capacities of any single organization, industry, government department or nation state.

Key research themes:

- Methodologies, tools and techniques
- Designing for leverages and systemic interventions
- Systems design education as a key leverage for a new way of systems thinking

Key research questions

1. What would be a systems-based framework for enhancing communication and collaboration to effectively and collaboratively share knowledge and develop strategies to manage complex projects and programs?
2. What would be effective and transferrable methodologies, user-friendly systems tools, models and techniques that can be used to manage and deliver complex projects and programs from a whole-of-life perspective?

Key research questions (cont.)

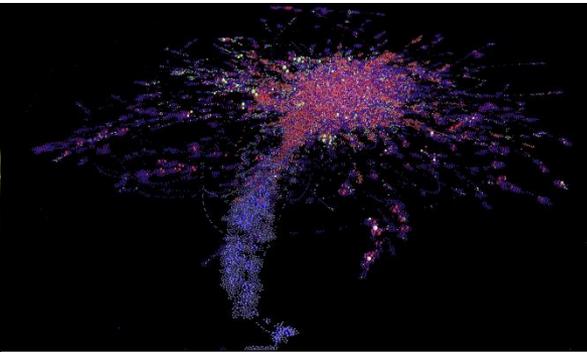
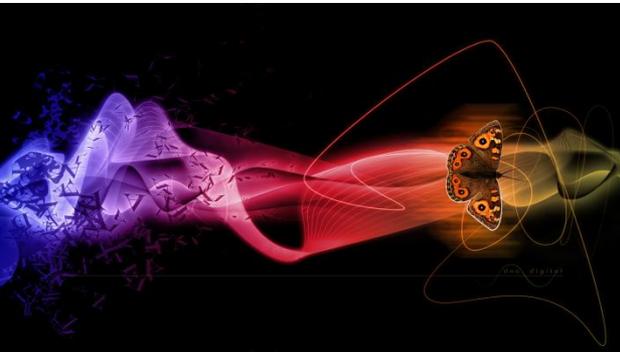
3. What would be models and techniques to reduce uncertainty and/or designing flexible responses to mitigate its resultant risks and to optimise strategies for intervention when patterns and systems of models are formulated and well established?
4. How to develop a major catalyst to create a new generation of future managers and leaders who will have the ability to effectively apply the systems knowledge to deal with complex issues facing a 21st Century knowledge society?

Digital Ecologies Program

In 1986 about 1% of technical data was digital; by 2007 it was 94%, where 'digital' is the holding of information as discrete, discontinuous (numbers/letters) or continuous (sounds/images), data. The relationship of social-networks to other living organisms and their information-technological/physical (abiotic) ecosystems has been similarly transformative.

Key research themes:

- Governance and shared awareness
- Tracking and management of information and data
- Digital knowledge exchange



Key research questions

1. Addressing the organisational ecologies necessary for enabling effective regulation and control to deliver business information and data security, *in time*, while maintaining the collaboration and shared awareness necessary to maintain transparencies, knowing and knowledge assurances, *over time*.
2. Effective Tracking and Management of Information against agreed standards therefore supports good behaviour in complex supply chains and enables (through transparencies) aberrant behaviour / information flows to be identified.

Key research questions (cont.)

3. What digital information and artefacts are (or should be) used when managing complex projects? How is this information found, knowledge exchanged, and its relevance, appropriateness, and quality judged / socialised? How is it 'known', shared, used, and re-used? What tools would support these processes, and therefore support project teams?

The Moscow Times

Gref Says Russia Lacks Project Management Experience

29 May 2013

By [Alexander Panin](#)



avtodor-ts.ru

Toll booths will help concessionaires to recoup infrastructure investment

"We have little experience in infrastructure projects, and we cannot foresee and calculate possible deviations from the plan over such a long term — 35 years of project duration. And that is why we need to invite professionals from all over the world here," Gref said.

"Russia really needs Western technologies, as well as effective management....."

Read more: <http://www.themoscowtimes.com/business/article/gref-says-russia-lacks-project-management-experience/480681.html#ixzz2UfZL0JA>
The Moscow Times

Though Russia has funds to finance infrastructure, it lacks project management experience to develop such projects and needs to borrow it from abroad, German Gref, the head of Sberbank, said at a business lunch for investors held by the Transportation Ministry on Tuesday.

The total cost of all tenders for road construction to be announced by the end of the year is valued at \$5 billion, Transportation Minister Maxim Sokolov said.

While the infrastructure improvement plans are long overdue, without the introduction of proper project management it will be impossible to complete them, Gref said.....

"A project management culture is absent in Russia. If we were to ask representatives of large Russian companies whether they have fully adopted the core principles of project management, I am sure the answer will be unsatisfactory," he said.

Gref cited reports on infrastructure development in other countries. Even the best examples in China, Spain, Germany and France show that by the time the project is complete the initial budget grows up by as much as 21 percent. On average, 41 percent of preliminary project documentation contains mistakes, he added.

"And we are talking about countries with a developed project management culture. Even 21 percent miscalculation in a \$30 billion project is worth \$6 billion, a huge amount," Gref said.

But Russia should borrow experience from abroad because few large-scale infrastructure projects have been implemented, he said.



Potential impact for Russia

Research to improve performance of mega projects are anticipated to have a significant and measurable impact on Return of Investment (ROI). Even a 1% increase on ROI of largest infrastructure projects in the next 3 years with total cost of approx. US\$106Bn would yield a benefit of US\$1Bn for Russia.

Examples of largest projects

- Infrastructure projects for 2014 Winter Olympic: US\$10.8Bn
- Kaliningrad Nuclear Power Plant (2016): US\$8.8Bn
- Gas Pipeline (2016): US\$40Bn
- The **Sakhalin-3** project, an oil and gas development in [Sakhalin Island](#): \$9Bn

Support for Russia and CIS

Uncertainty, ambiguity and significant political and external influences...

Welcome to the world of complex projects...

ICCPM has established a regional presence for support in Russia and the CIS. We have also established an MOU with the Tomsk National Polytechnic Research University to ensure world's latest Complex Project Management research and investment is shared with Russia. We have also agreed to sign an agreement with the Russian CIS Government through the Presidential Library.

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