

MANAGING RISK: THE VIEWS OF THE BUILT ENVIRONMENT PROFESSIONAL IN WALES

October 26th 2012

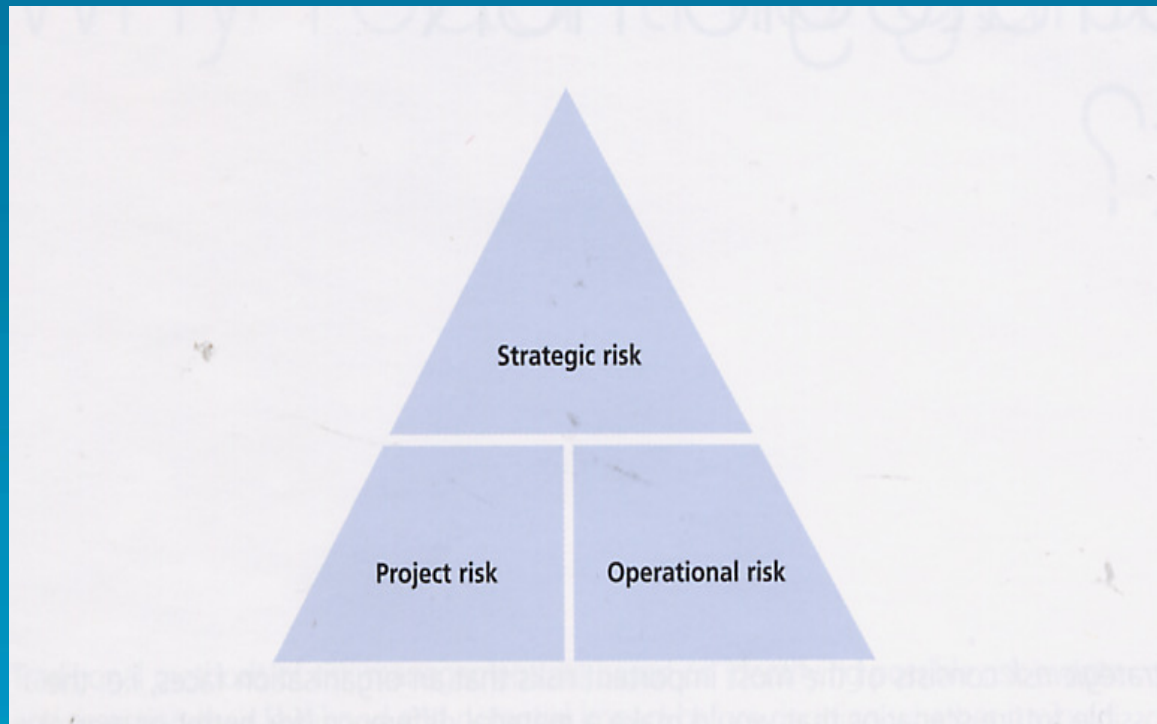
Thoughts from London 2012

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The Actuaries View:

Based on a presentation made by Chris Lewin at the seminar
Managing Risk – The views of the Built Environment
Professional, London, February 2012.



Enterprise Risk

- Strategic (big risks)
- Project (risks in change projects)
- Operational (“business as usual” risks)

Risk Analysis and Management for Projects (RAMP)

- **A framework for managing project risks and uncertainty**
- **It attaches financial values to risk**
- **It assists in making choices about competing projects**
- **It helps when deciding whether to spend money on risk mitigation**
- **From the outset RAMP considers risks throughout project lifetime**
- **Disaster risks are highlighted - not buried in a model**
- **Focuses attention on need for special care at planning/design stage**
- **Recommended by HM Treasury and senior management of OGC**

RAMP in summary:

- **Covers both threats and opportunities**
- **Methodology – iterative process, risk identification, analysis, responses, residual risks, decision processes, follow through to risk control.**
- **Used with financial models to provide range of possible NPV outcomes for different scenarios**
- **Looks at underlying causes of risk**
- **Considers uncertainty, not just foreseeable risks**
- **Considers whether to spend money on risk mitigation**
- **Focuses on assumptions and bias as sources of risk**

Use of RAMP for decisions

- To proceed or not? And which project?
- Identify residual risks after risk responses
- Use investment model to generate probability distribution of NPVs
- Do sensitivity testing
- Add in the assumption risks
- Consider uncertainty, flexibility, bias and political factors. Add intuition.
- Decide

Ten tips for project success

- Get full understanding of objectives of all key stakeholders
- Define project's scope, objectives and success criteria thoroughly
- Make design as flexible as possible, involving ultimate users
- Identify and analyse all significant threats and opportunities and plan responses
- Prepare high-quality appraisal, avoiding bias
- Establish good risk-governance and communication system for project
- Draw up project plan and ensure sufficient resources
- Develop contingency plans
- Have a good change control process with cut-off date
- Ensure sufficient funding in place for completion of construction

Actuarial conclusions:

- **RAMP - a useful tool for project managers and sponsors**
- **Civil Engineers played a key role in developing it**
- **Actuaries can help with financial modelling etc**
- **Placing financial values on risk helps in making decisions, e.g. which project to choose and whether to mitigate risk**
- **For large infrastructure projects RAMP can be used within a Multi-Criteria Framework**
- **RAMP is all about methodically thinking through the project and its context – looking ahead and considering achievement of benefits as well as delivery within time and budget**

An Insurance View:

Based on a presentation made by Paul Hampshire (Vice President Civil Construction & Global technical at Liberty, International Underwriters and member of the Construction Insurance Risk Engineers Group (CIREG) at the seminar Managing Risk – The views of the Built Environment Professional, London, February 2012.

Risk Engineering Assessment: 4 Pillars

1. Organisation and Structure – *who*
2. Technical – *what*
3. Natural Perils – *where*
4. Program & Budget – *how*

Risk Engineering Assessment: 4 Pillars

1. Organisation and Structure – *who*

Client

Project Team – Contractor, Designer, PM, etc.

Procurement – of project services, transparency

Contract Form – relationship and risk allocation

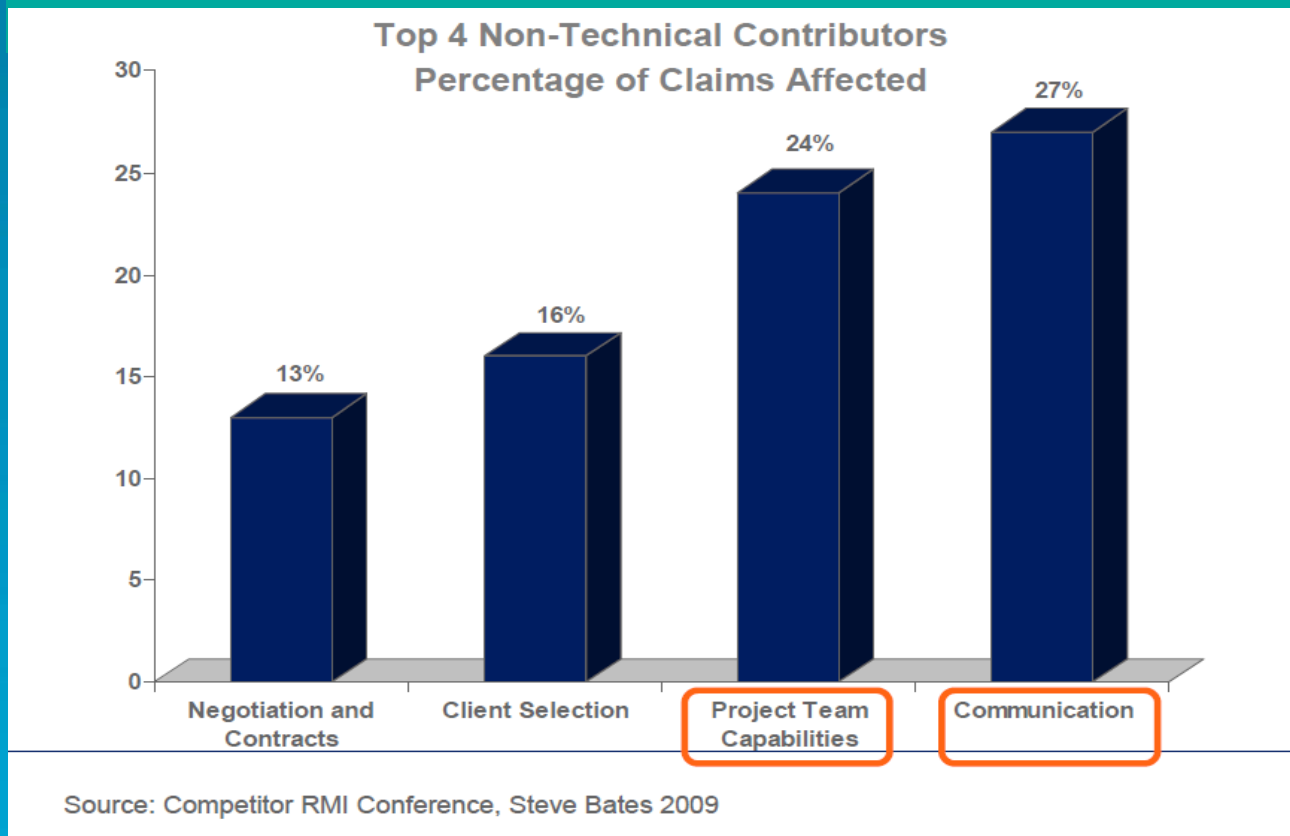
Pro-active Risk Management, JCoP

Processes – PMP, QMS, HSSE

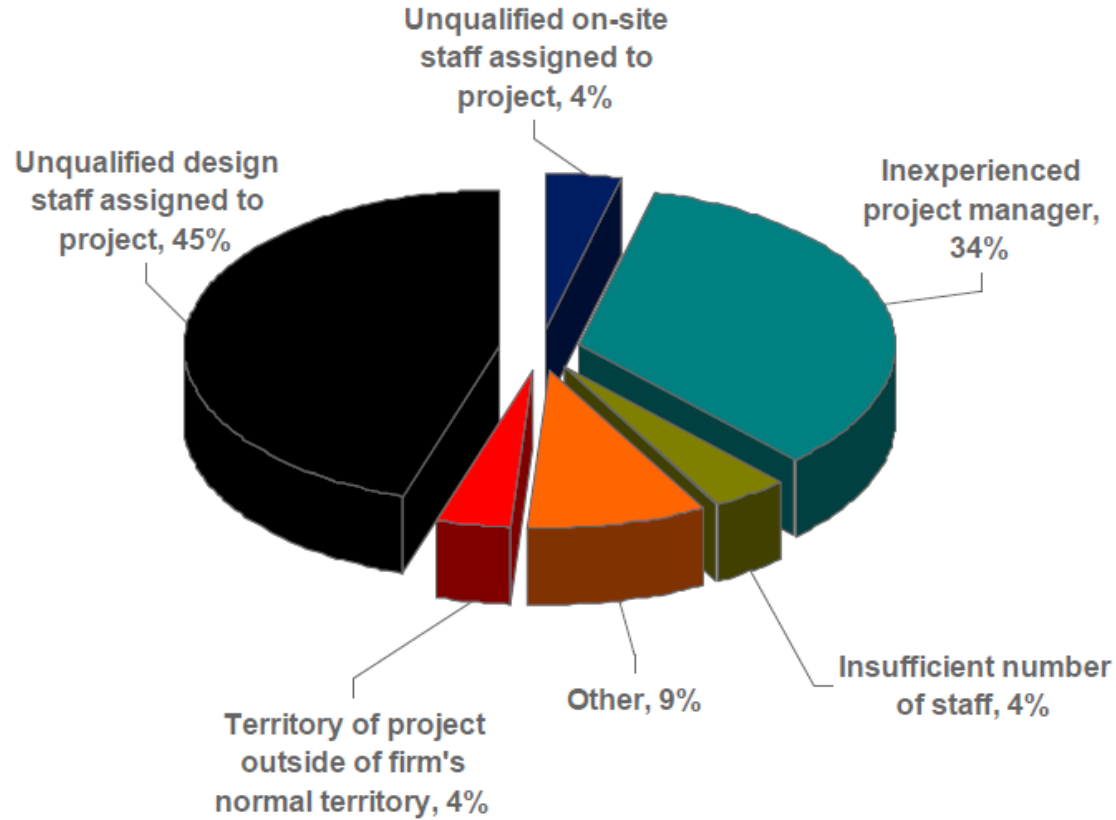
Behaviours, People, Processes, Communication

c40% of risk assessment for project insurance

Why Focus on the Management of the Project?



Project Team capability issues



Risk Engineering Assessment: 4 Pillars

2. Technical – *what*

Project Brief

Prototypical designs

Innovative methods or materials

Design Standards and norms

Base Data, site investigations, GBR

Fitness for Purpose

c30% of risk assessment for project insurance

Risk Engineering Assessment: 4 Pillars

3. Natural Perils – *where*

Topography

Water – rain, groundwater, flood, etc.

Geology

Earthquake

Storm

Hazardous materials

Dust, Fire, Hailstorm, etc.

c15% of risk assessment for project insurance

Risk Engineering Assessment: 4 Pillars

4. Program & Budget – *How*

An independent assessment of Time and Cost
Project Master Program (Level 2)
Phasing, critical path & milestones
On and Off-Site logistics
Project Budget, Spend Rate
Breakdown of Values (WBS)

c15% of risk assessment for project insurance

Who is the Construction Industry?

- **Owners, Project Sponsors
Project Delivery Team (Designers, PM, Contractors,
Suppliers)
Financiers, Lenders
Insurers**

All have an alignment of interest in achieving a successful project outcome.

Risk Assessment in Civil Construction

Selecting projects constructed by.....

-the right people
-doing the right thing
-in the right place
-in the right way

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Seminar Chairman:

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