



Project Diagnostics

Providing successful project outcomes

Sheldon Sherman

February 2005



ARUP



CSIRO



Queensland Government
Department of **Public Works**



Queensland Government
Department of **Main Roads**



Australian Institute of
Project Management



ARUP



Cooperative Research Centre for Construction Innovation

- National collaboration in the construction industry – industry, government and research
- International linkages
- Collaborative projects aimed at real commercial benefits to the industry
- Moving ideas through research into real business benefits



Construction industry statistics

- 75% of projects worldwide fail basic criteria
- These include:
 - over budget, over time



Want an example from the top?

How bad can things really get?

- Boston Central Artery/Tunnel project in USA – nicknamed “The Big Dig”
- \$US6 billion over budget at end of 2002



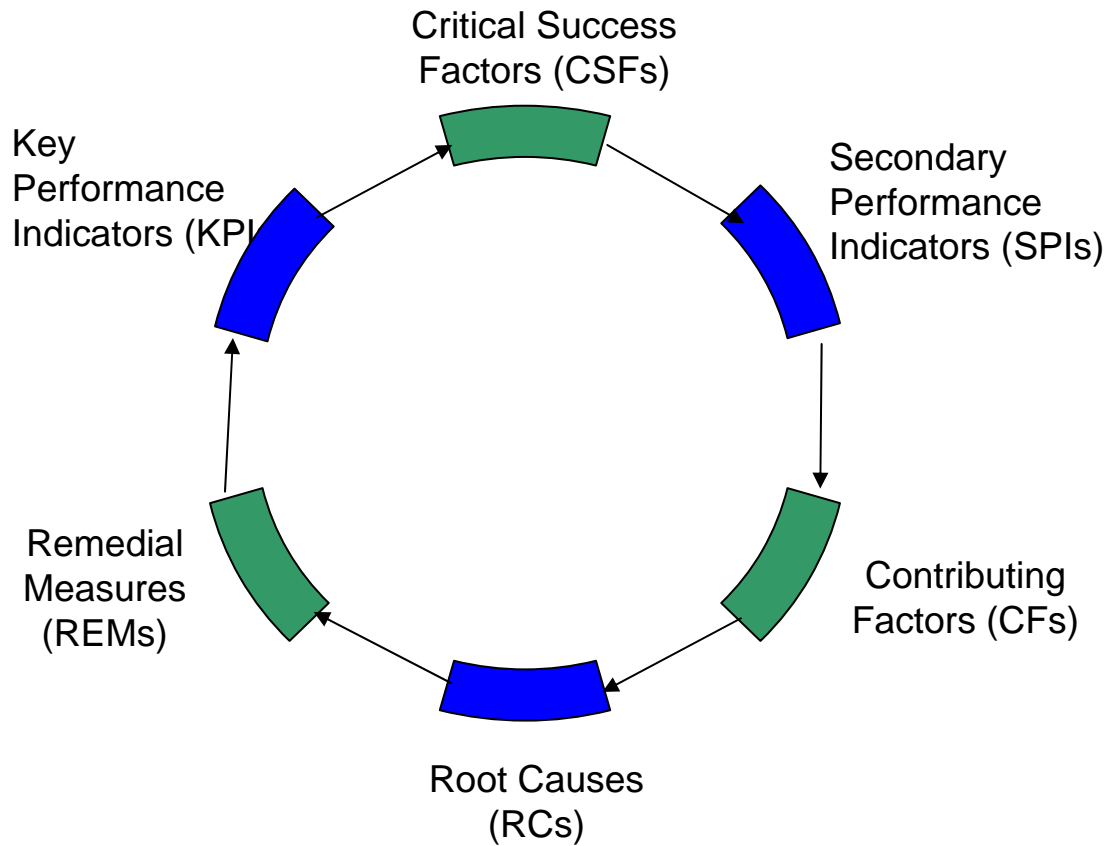
So what can we do?

Project Diagnostics:

- Objectively investigates the state of health of construction projects
- Identifies the specific root causes of poor health
- Suggests generic remedial measures to improve project performance and outcomes for stakeholders in the supply chain



Innovative, globally unique approach





Decision Tree

- 7 Critical Success Factors
- 21 Key Performance Indicators
- 150 Contributing Factors
- 150 Secondary Performance Indicators



Critical Success Factors

- Cost
- Time
- Quality
- Relationships
- Environment
- Safety
- Stakeholder Value



Key Performance Indicators

- Maximum objectivity maintained
- Easily measurable
- Sensitive and conclusive
- Able to be benchmarked
- Reflect practicalities
- Applicable to all project phases
- Applicable across the range of project sizes



The insights

Project Diagnostics:

- Supply chains deliver projects, not just clients
 - *Project Diagnostics interrogates the supply chain*
- Project delivery is full of a series of processes which interact
 - *Project Diagnostics models these interactions*
- Project cost and time over runs are most often the result of issues which occur at a much lower level and therefore have a gestation period
 - *Project Diagnostics interrogates at this low level*



More insights

Project Diagnostics:

- Applicable in Australia and internationally?
Yes, with some customisation for local conditions.
- Applicable across project delivery phases?
Yes, it was designed for use during all project delivery phases, with greatest benefit after design completed.
- What size of project is it applicable to?
Minimum approx \$A1 million. No upper limit.



What's in it for clients?

- More control
- Less cost blowouts
- Projects finishing on time
- Better quality
- Business cases being realised
- Less litigation





Any other reasons?

- Developed jointly by industry and researchers
- Cost effective
- Multiple benefits
- Better project outcomes probable
- Financial benefits for supply chain likely



Test :: Project Profile

New... 31 Aug 2004

Project Profile

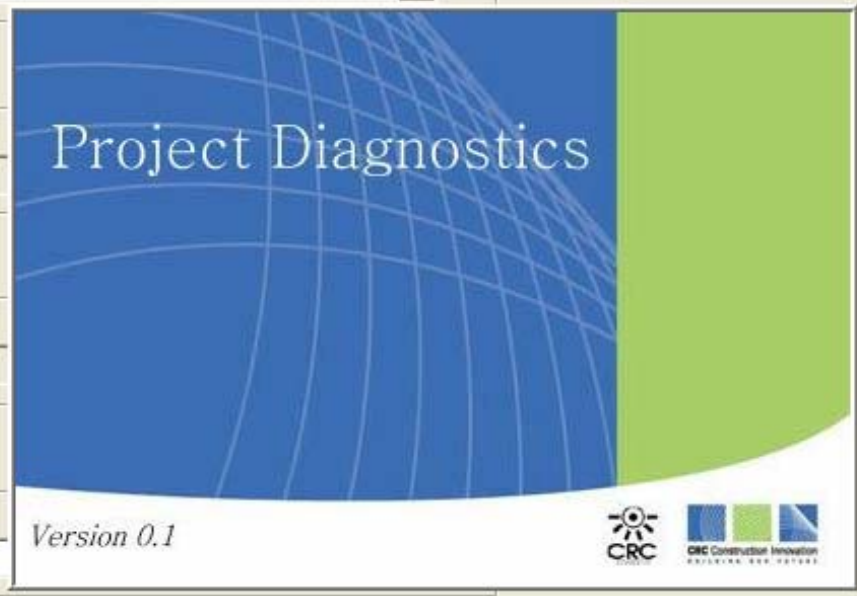
Project Profile | Key Stakeholders

Project Phase

Project Type

Contract Type

Procurement Method



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ABC Rail Link :: Project Profile

New... 15 Feb 2005 [v]
Project Profile [v]

Project Profile | Key Stakeholders

Project Phase [Construction v]

Project Type [Building v]

Contract Type [Cost Plus v]

Procurement Method [Traditional v]

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ABC Rail Link :: Project Profile

New... 15 Feb 2005

Project Profile

Project Profile | Key Stakeholders

Project Phase: Construction

Project Type: Building

Contract Type: Cost Plus

Procurement Method: Traditional

New Project

New Project

Project Name: ABC Rail Link

Information valid as of: 15 Feb 2005 Change Date...

Stakeholders

Clients	<input type="text" value="2"/>	Lead Consultants	<input type="text" value="1"/>
Sub-Consultants	<input type="text" value="4"/>	Head Contractors	<input type="text" value="3"/>
Sub-Contractors	<input type="text" value="10"/>	Community	<input type="text" value="0"/>

OK Cancel

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ABC Rail Link :: Project Profile

New... 15 Feb 2005

Project Profile

Project Profile | Key Stakeholders

Stakeholders value

Stakeholder	Company Name	Financial Value	Prestige and Profile	Networking	Product Satisfaction	Impact on Community
Client	Dept of XYZ	Yes	Yes	Yes	N/A	N/A
Client	JKL Bank	No	No	No	N/A	N/A
Lead Consultant	LM Consult	No	Yes	No	N/A	N/A
Sub-Consultant	Architect	Yes	No	No	N/A	N/A
Sub-Consultant	Engineer	Yes	Yes	Yes	N/A	N/A
Sub-Consultant	Quant Surv	Yes	Yes	Yes	N/A	N/A

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ABC Rail Link :: Critical Success Factors

New... 15 Feb 2005

Critical Success Factors

Time Cost Quality Relationships Environmental Safety

Cost Performance Indicator::JKL Bank

BCWP

80000000

/

ACWP

100000000

=

CPI

Unhealthy

Cost Performance Indicator::LM Consult

BCWP

2500000

/

ACWP

2600000

=

CPI

Healthy

Projected Cost Indicator::JKL Bank

BAC

160000000

/

EAC

200000000

=

PJCI

Unhealthy

Projected Cost Indicator::LM Consult

BAC

5000000

/

EAC

7500000

=

PJCI

Unhealthy

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Report for client

Advice to clients:

- Independent and objective specific advice
- Specific areas for remedial action
- Specific stakeholders for remedial action

CLIENT REPORT



STRICTLY CONFIDENTIAL

RESULTS FROM ANALYSIS

STAKEHOLDER: JKL Bank					
CRITICAL SUCCESS FACTOR	ROOT CAUSES	SUGGESTED REMEDIAL MEASURES	ACTIONS	ACTION DATE	COMMENTS
COST					
TIME					
RELATIONSHIPS					



Want more information?

For more information about the innovative Project Diagnostics software tool contact:

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