

Decision Making within Risk Management of complex projects

- Selection of appropriate techniques
- Scalable framework
 - From priority setting for Program Management to 30 sec decision making in elevators / stairwells / corridor
- Modification of techniques to include feedback loops
 - Better sense-making / situational analysis

Six Principles – ISO 38500 – ICT Governance

- Establish clearly understood responsibilities
- Plan ICT projects to best support the organisation
- Acquire ICT projects validly
- Ensure projects perform well whenever required
- Ensure projects conform with formal rules
- Ensure projects respect human factors

Decision Making

- Normative
 - Multiple Attribute Utility Theory (Keeney and Raffia 1992)
- Descriptive / Naturalistic
 - Recognition Primed Decision Making (Klein 1993)
 - Importance of Feedback loops (Argyris 1991)
- Prescriptive
 - Risk Remedy (Lewis 1999)
 - General Planning Process (POWER) (Lewis 1990)
 - Intuition and Bricolage (Leybourne 2006)
 - Real Option Pricing (Copeland et al 1990)
 - Critical Chain (Goldratt 1997)

Risk Management - Criteria

- Ill-Structured problems
- Uncertain dynamic environments
- Shifting, ill-defined or completing goals
- Action / Feedback Loops
- Time Stress
- High Stakes
- Multiple players
- Organisational goals and norms

Orasuna and Connolly (1993)

RPD Characteristics Vs Project Success Criteria

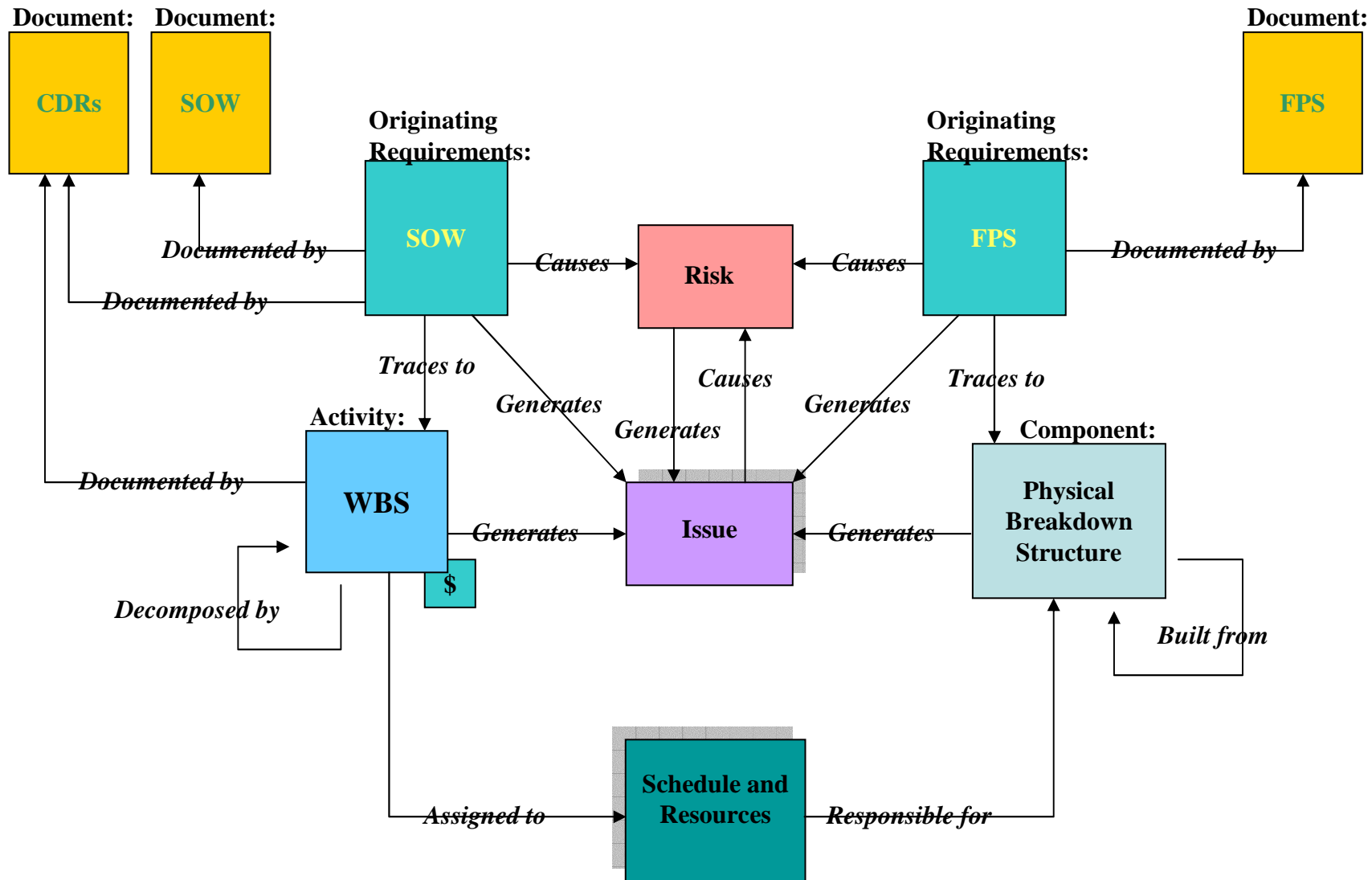
Project									Success
Big Australian Telco							Internal		50%
State Government Rail									80%
Med Scale Outsource									50%
Telco Satellite Project									100%
International Airline IT Refresh									80%
Outsource large Australian Bank									70%
Outsource Health Group									65%
Combat System									70%
Australian Submarine project									60%
O & C Factors	1	2	3	4	5	6	7	8	
Points 9 Projects examined and reviewed 1995 to 2006 Action Feedback loops critical to effective use Success Criteria measured against Business Case Objectives - 10 key objectives									

[Orasuna and Connolly highlight there are eight important factors that characterise naturalistic settings:\[1\]](#)

1. Ill-Structured problems
2. Uncertain dynamic environments
3. Shifting, ill-defined or competing goals
4. Action / feedback loops
5. Time Stress
6. High Stakes
7. Multiple Players
8. Organisational goals and norms.

[1] Klein et al, 1995 Decision Making in Action: Models and Methods pp7-19

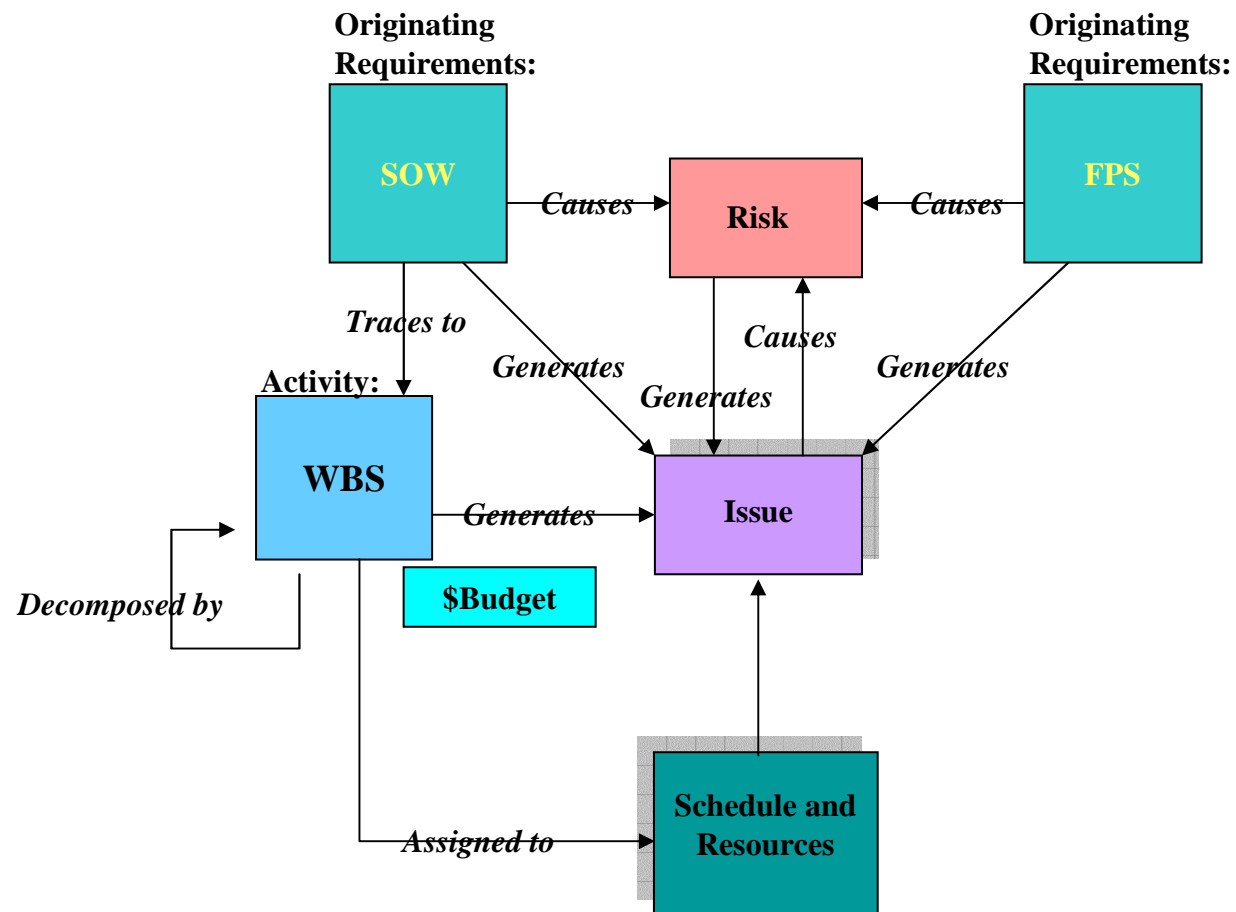
Project Management Relationship Diagram



PMBOK and PRINCE 2

- PMBOK addresses Analytical Hierarchy Process (Saaty 1977) criticised by (Dyer 1990)
- Projects IN Controlled Environments 2 – Business Case linkage and Configuration Management – refined scope

Small Scale Projects



Tools Required for better Decision Making

- PMs need to ensure they remain outcome focussed – the Business Case (Plan the Plan)
- Better Teamwork = Better decision making
- Research observation – Civil Engineering Vs ICT and Defence based System Integrators – Management Right of Passage
- Projects are about delivering – Intended Outcomes
- Methodologies need to support decision making

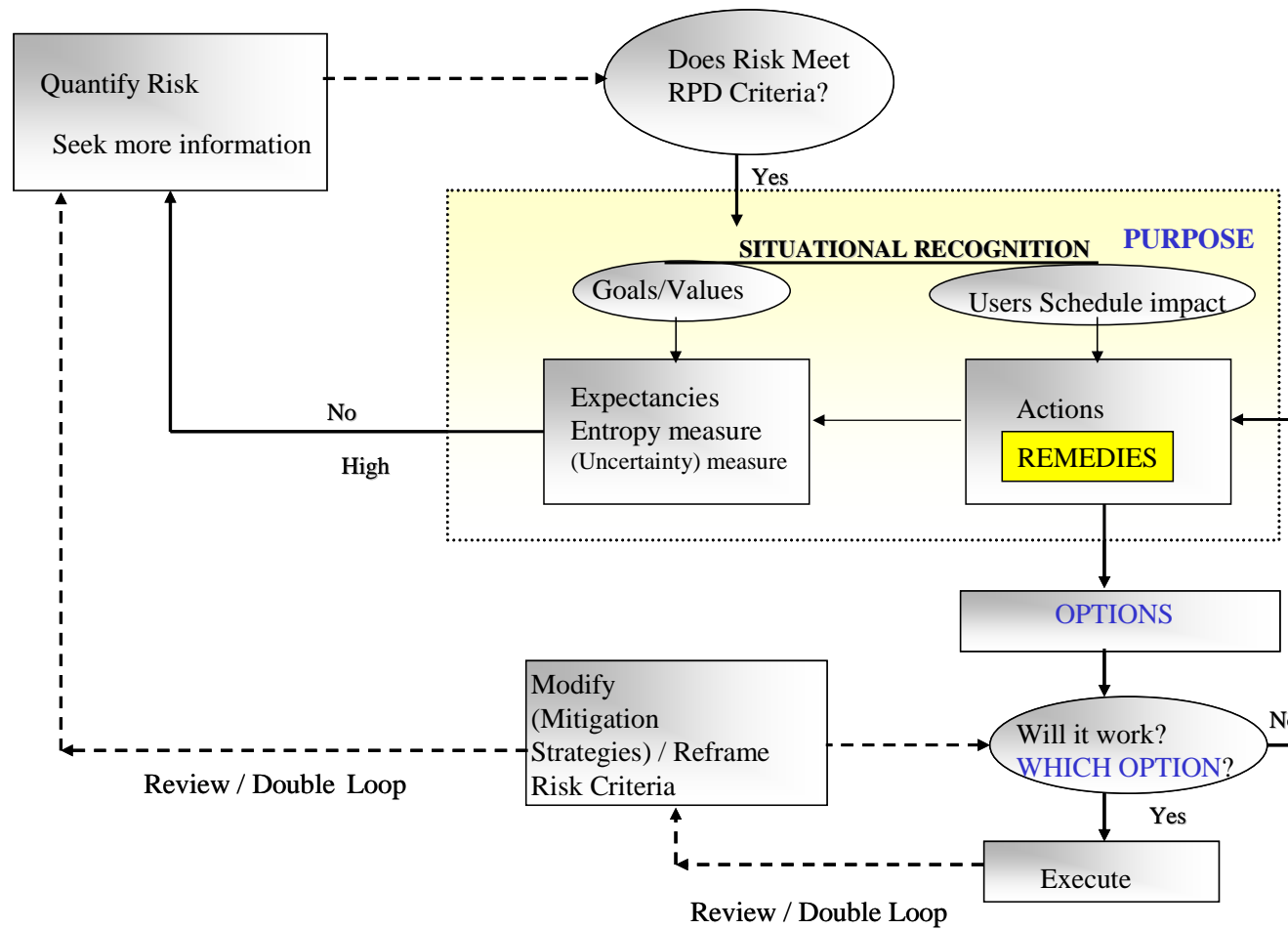
What is available for Decision Making in Complex Projects

- Normative Approach
 - Multiple Attribute Utility Theory (Keeney & Raiffa)
 - Analytical Hierarchy Process (Saaty) (Dyer contention)
 - PMBOK – Logical frameworks – Objective Trees – Stakeholder Analysis

Decision Making in Complex Projects

- Descriptive Approaches
 - Naturalistic – satisficing allocation (Simon)
 - Heuristic Reasoning (Gigerenzer)
 - Recognition Primed Decision Making (Klein)

RPD with feedback loop



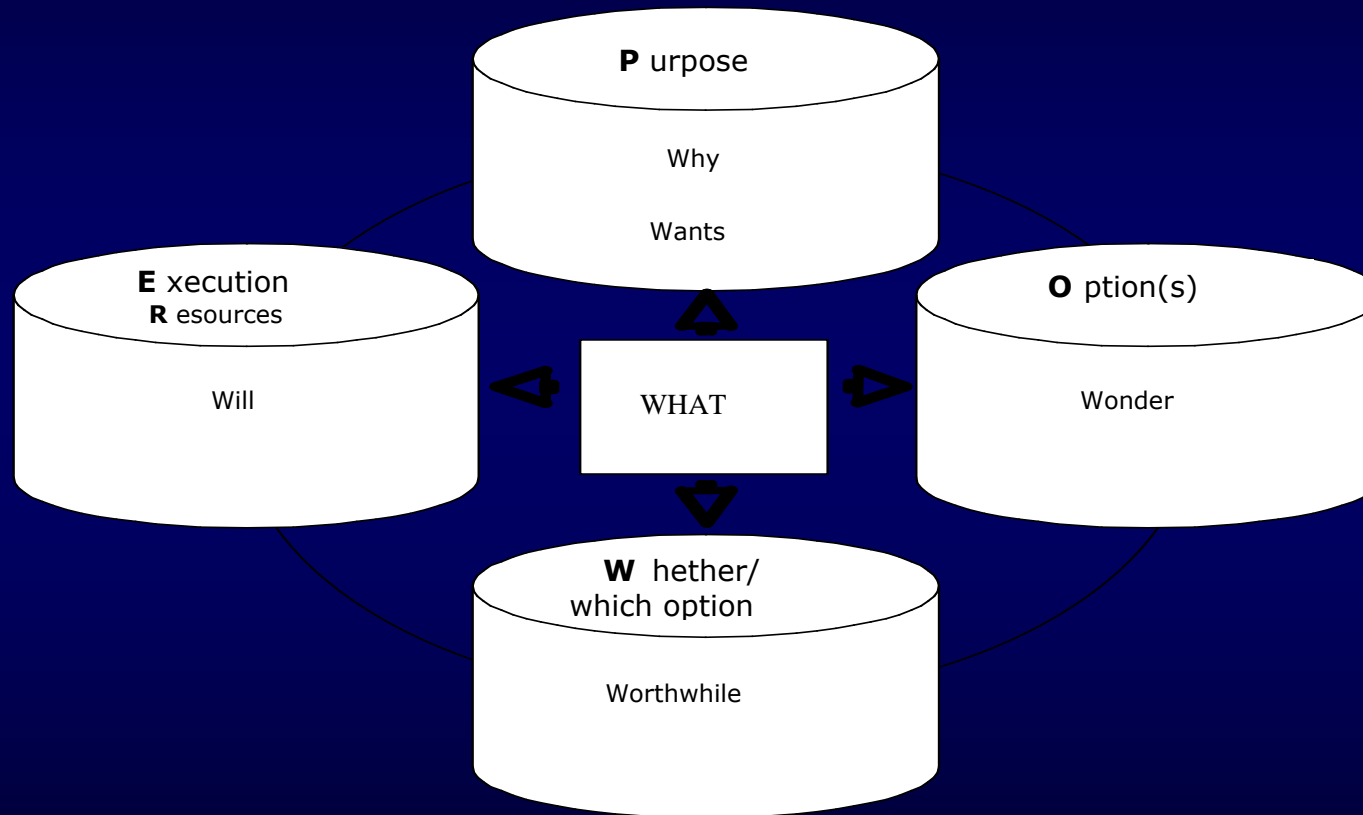
Decision Making in Complex Projects

- Prescriptive Approaches
 - Smart Choices (Hammond, Keeney & Raiffa)
 - Value Focussed Thinking (Keeney) problems are not always problems
 - In Decision Making having a number of alternatives can be a positive. Decision problems are not always problems
 - POWER process
 - Risk Chain Analysis linked with Bayesian analysis
 - Internally Generated Risks (IGR) and Root Cause Risks (RCR)

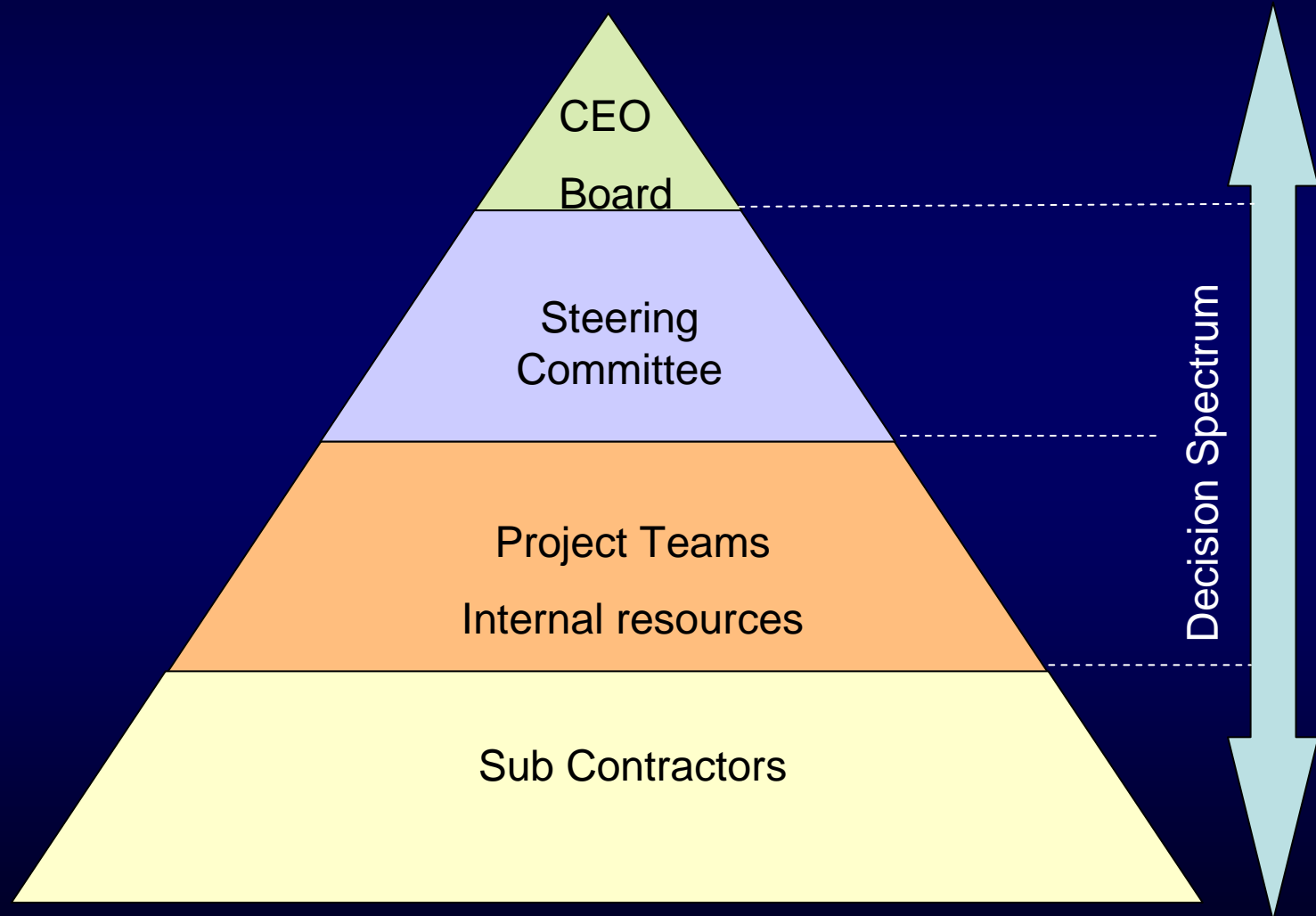
POWER process

- Purpose
- Options
- Which Option
- Execution and
- Resources

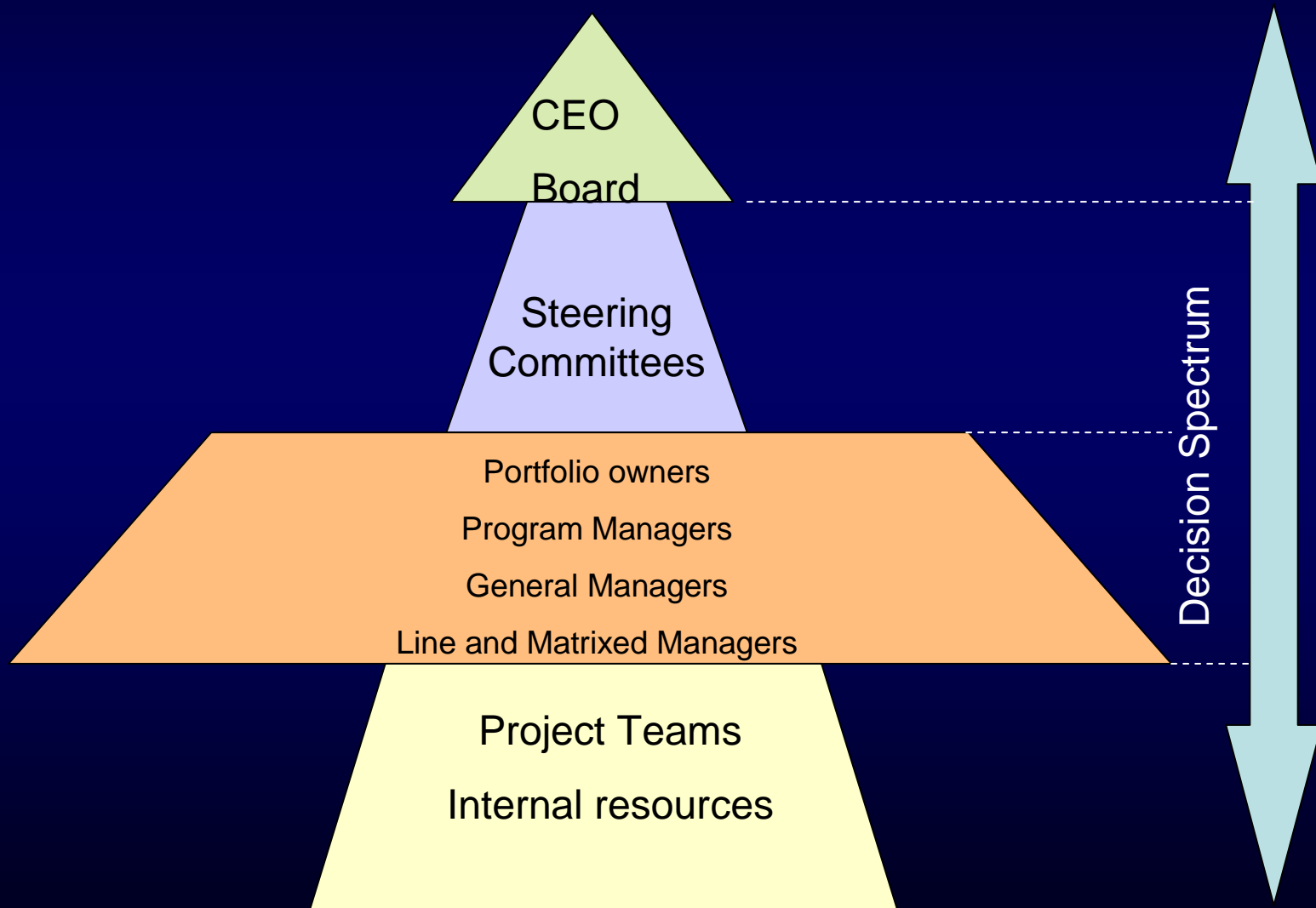
POWER process

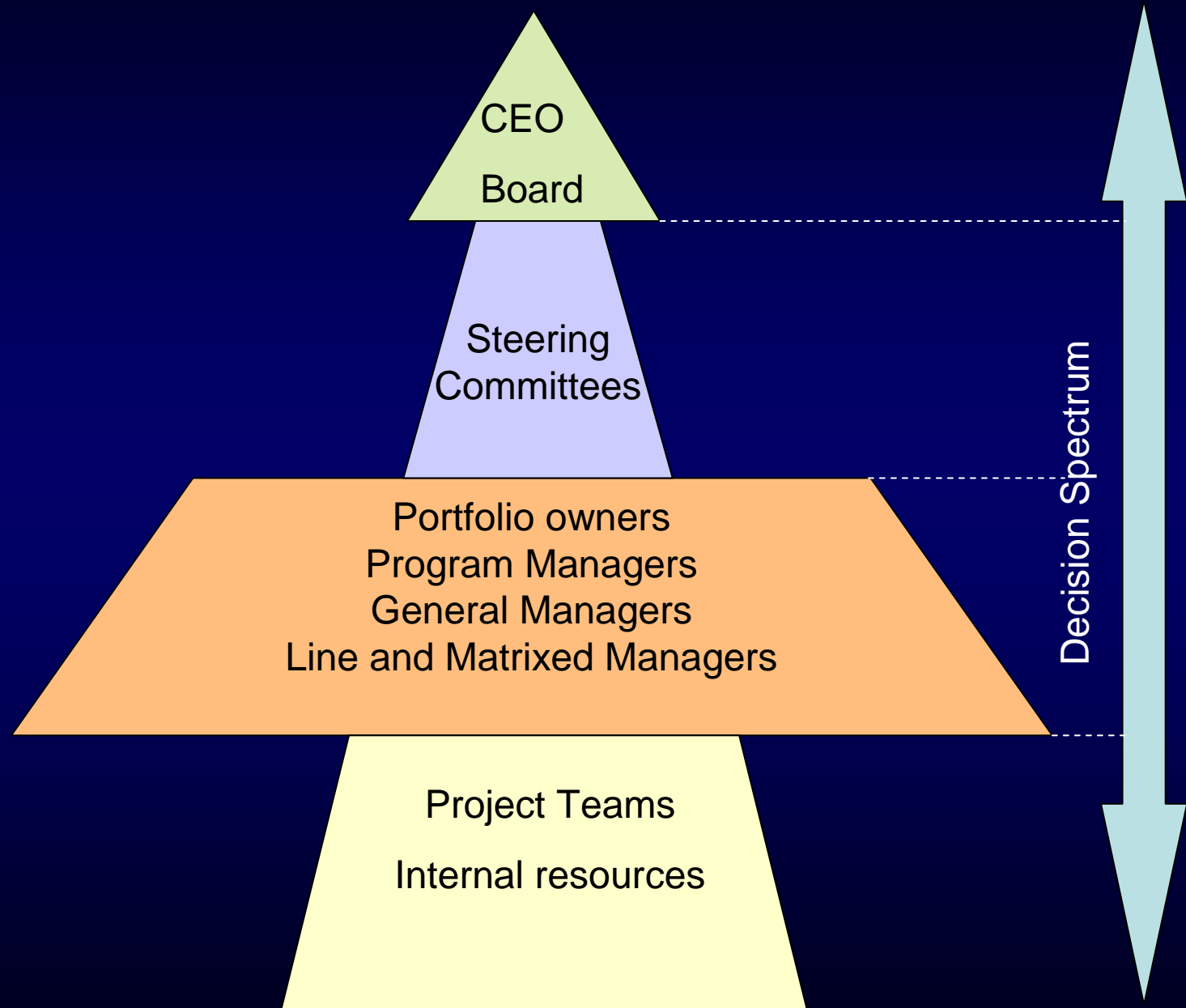


Decision Making Spectrum



Organisational Distortion – Upward Reporting





Case Study

- Australian Defence Satellite Communications Capability (ADSCC)
- Use of AnnL
- Data tearing
- Coupling and De-coupling
- Influences upon coupling (Weick)

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 - Critical Chain (Goldratt 1997)
 - Risk Chain (Lewis & Scott)
 - Root Cause Risk building on IGRs

Research Outcomes

- Decision Making within Risk Management of complex projects
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 - Better sense-making / situational analysis
 - Use of Risk Chain Analysis – Pattern of Risk

Questions

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