



Risk management : best practice & future developments



Presented by
Dr David Hillson PMP FAPM FIRM



Director
david@risk-doctor.com

Risk Doctor & Partners
www.risk-doctor.com

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What is “*best practice*”?

- “*Routine activities that lead to excellence*”
- Not “*what everyone does*” ...
... but “*what everyone should do*”
- Accepted by leading professionals
- Implemented by leading practitioners
- Widely accessible
- Scalable, easily tailored or modified

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Various approaches

Vision Strategy Programme Project Tasks

Corporate governance/PD6668

MoR (OGC) 2002

RAMP (ICE) 2002

BS6079-3:2000

IRM/AIRMIC/ALARM:2002

AS/NZS 4360:2004

PRAM (APM) 2004

PMBok (PMI) 2004

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Elements of best practice

- Definition of “risk”
- Components of process

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Risk and uncertainty

Risk \neq Uncertainty

True or **False**?

Risk = Uncertainty that matters
(i.e. can affect **objectives**)

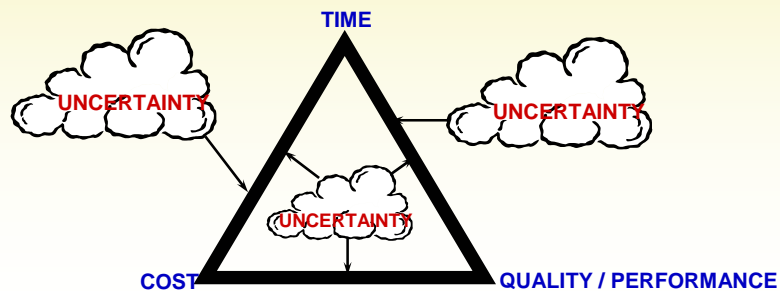
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Where does risk come from?

All projects contain risk, arising from interactions between

- **objectives** ...
 - what must happen
- **uncertainty** ...
 - what might happen



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What is a risk?



"An **uncertain** event or set of circumstances that, should it occur, will have an **effect** on achievement of one or more of the project's **objectives**"

(APM PRAM Guide)

Risk connects uncertainty with objectives



"The combination of the **probability** of an event and its **consequences**"

(IRM/AIRMIC/ALARM RM Standard)

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Two dimensions of risk

Risk has two dimensions :

1. **uncertainty**
2. **effect on objectives**



"probability"

"impact"



Risk connects uncertainty with objectives

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Two dimensions of risk

- Uncertainty estimated as “probability”
- “Impact” assessed against objectives
 - But what kind of impact?
 - Could be either *positive* or *negative*
 - Uncertainty that *helps* as well as uncertainty that *harms*
 - *Opportunities* as well as *threats*



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Two-dimensional definitions

- **PMI® PMBoK® Third Edition :**
 - “An uncertain event or condition that, if it occurs, has a **positive or negative** effect on a project objective.”
- **APM PRAM Guide (second edition) :**
 - “Uncertainty can affect achievement of project objectives either **positively or negatively**. The term ‘risk event’ is therefore used to cover both uncertainties that could hinder the project (threats) as well as uncertainties that could help the project (opportunities).”

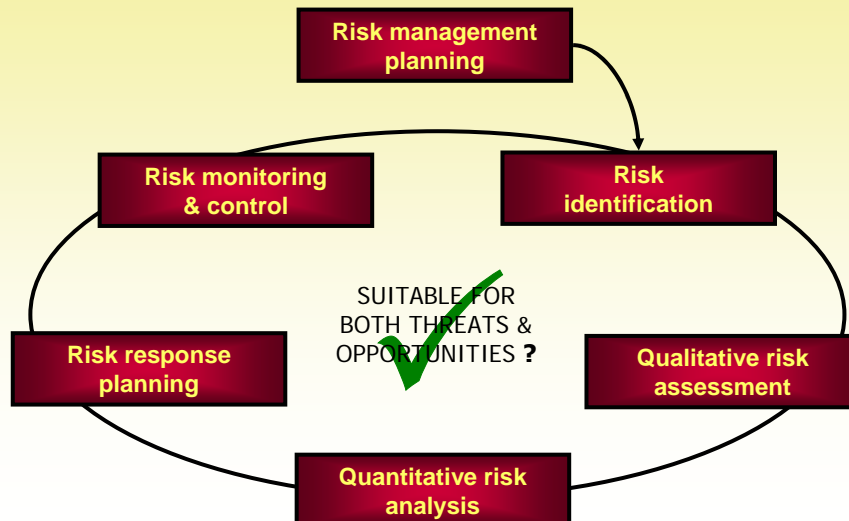
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A best-practice process

PMBok Third Edition, Chapter 11

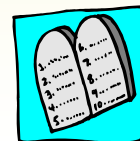


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Risk Management Planning

- “Set the scope, objectives and context for the risk management process” (PRAM Guide)
- “The *process* of deciding *how to approach & plan* risk management activities for a project” (PMBok)
- Decisions cover :
 - organisation & staffing
 - appropriate methodology
 - tools & techniques
- Ensure level, type & visibility of process match :
 - riskiness of project
 - importance of project to organisation
- Output : **Risk Management Plan**



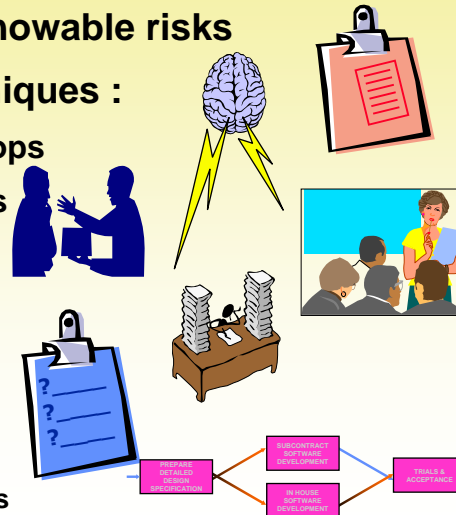
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Risk identification

- Aim to expose “all” knowable risks
- Common risk id techniques :
 - brainstorming/workshops
 - prompt lists/check lists
 - interviews
 - questionnaires
 - other techniques
 - document review
 - Delphi groups/NGT
 - diagramming techniques



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Risk assessment

- **Qualitative** assessment
 - What is the risk?
 - Why might it occur?
 - How likely is it? (*Probability*)
 - How bad/good might it be? (*Impacts*)
 - Does it matter?
 - What can we do?
 - When should we act?
 - Who is responsible?
- **Quantitative** analysis
 - modelling uncertainty
 - simulate combined effect of risks
 - predicting outcomes
 - range, min/max, expected
 - testing scenarios
 - setting confidence limits
 - identifying criticalities
 - determining options
- Record/analyse in **Risk Register**
- Model in **software**

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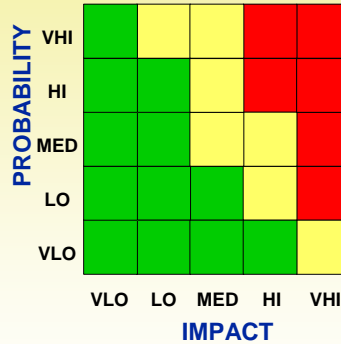




Qualitative techniques

1. Probability/Impact matrix

- define terms HI/MED/LO
- prioritise risks R/Y/G



2. Risk categorisation (RBS)

- common sources
- “hot-spots” of exposure

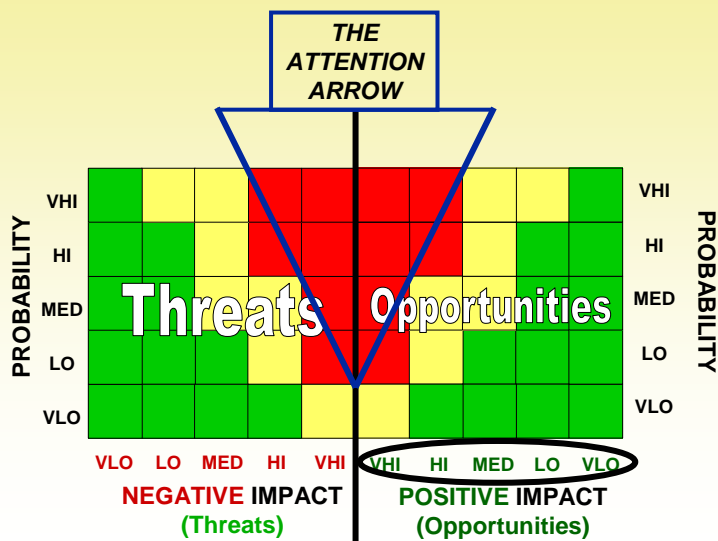


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The “mirror” double P-I Matrix

Use two matrices : rotate opportunity half



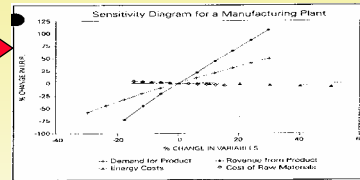
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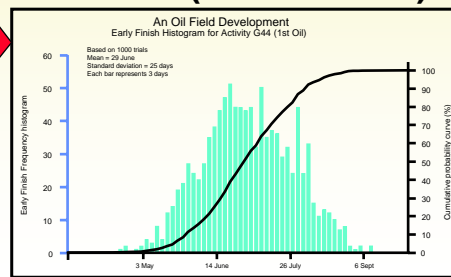
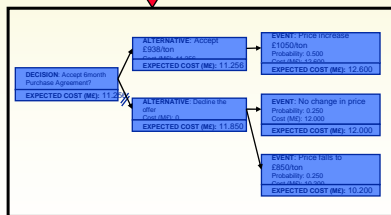
Quantitative techniques

- Sensitivity analysis



- Decision trees

- Statistical simulation (Monte Carlo)



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Risk response planning

- Using risk information to **make decisions**

- Based on :

- type & nature of risk
- manageability
- impact severity
- resource availability
- cost-effectiveness

- Identify :

- **best owner** for response
- **appropriate** response
- **effective** management action



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Threats & opportunities

THREAT	GENERIC STRATEGY	OPPORTUNITY
Avoid	ELIMINATE UNCERTAINTY	Exploit
Transfer	ALLOCATE OWNERSHIP	Share
Mitigate	MODIFY EXPOSURE	Enhance
Accept	INCLUDE IN BASELINE	Accept

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The key question ...

... How many frogs are on the log?



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Risk monitoring & control

- **Effective proactive management action**
- **Adjust strategy**
- **Take risks safely**
- **Gain the benefits**



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Risk monitoring & control

- **Monitor changes in risk exposure**
 - **Periodic risk reviews**
 - New risks, closed risks, changes in assessment
 - **Earned value analysis**
- **Determine effectiveness of responses**
 - **Additional risk response planning**
- **Assess effectiveness of risk process**
 - **External risk audits**

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Benefits

Do it because it works (for you)

- **Hard benefits**
 - credible plans
 - increased chance of success
 - better contingency
 - metrics for future projects
 - comparison of alternatives
 - identifies best risk owner
- **Soft benefits**
 - improved communication
 - common understanding
 - develops risk awareness
 - focuses attention
 - facilitates risk-taking
 - demonstrates professionalism

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The way ahead?



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Vision for the future

- Risk management is not static
 - still developing and moving forward
- Three areas for development
 - integration
 - increased depth & breadth
 - behavioural aspects

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Integration

- Integral to management of projects
 - culture
 - process
 - tools
- Integral to corporate culture
 - **Enterprise risk management**
 - across the business, top to bottom
 - **TRM** :
 - a way of thinking
 - attitudes lead to actions

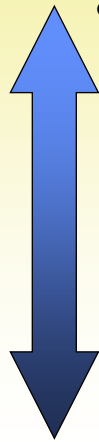
“Quite in not too far”

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Increased **depth** & breadth



- **Depth** of risk analysis
 - better tools & techniques
 - user-friendly
 - functionality
 - integration
 - use of AI, IKBS, expert systems
 - knowledge management
 - learning from experience
 - draw on other disciplines
 - value management
 - system dynamics
 - safety and hazard analysis
 - scenario planning

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Increased depth & **breadth**



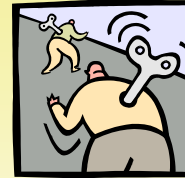
- **Breadth** of application
 - not just threats to project time & cost
 - risk as **opportunity**
 - **other objectives** : performance, quality ...
 - **soft objectives** : environment, HF, reputation ...
 - **programme/portfolio** risk assessment
 - inter-project issues
 - **business** risk assessment
 - business drivers, investment appraisal
 - corporate governance, holistic risk

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Behavioural aspects



- Risk is not managed by robots
 - Human psychology is major influence
- Awareness ⇨ understanding ⇨ modification
 - “*Know thyself*”
- Aim for “risk maturity”
 - Appropriate choice of attitude & approach to meet specific needs of situation

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Risk attitudes



- Range :
 - Risk-averse
 - Risk-neutral
 - Risk-tolerant
 - Risk-seeking
- Why does it matter?
 - Attitudes create heuristics
 - Heuristics influence judgement
- Need to identify & manage risk attitudes
 - Personal and corporate
 - Develop emotional literacy

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Where are we going?

- Project risk management has a **future**
 - not just a passing fad
- **Develop** or **die**
 - pioneers or settlers
- **Do it** - because it works!



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Thank you

Questions are welcome

More information from David Hillson
david@risk-doctor.com www.risk-doctor.com

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