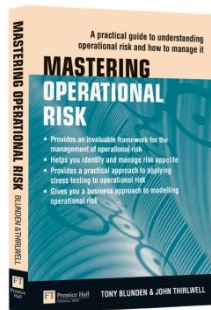


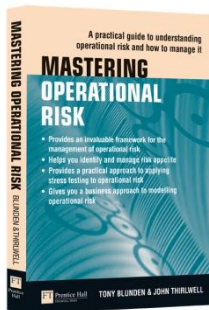
Operational risk management: what it is and why it matters

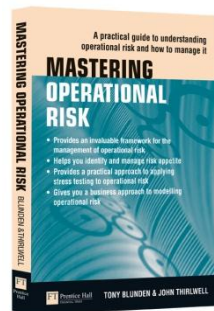
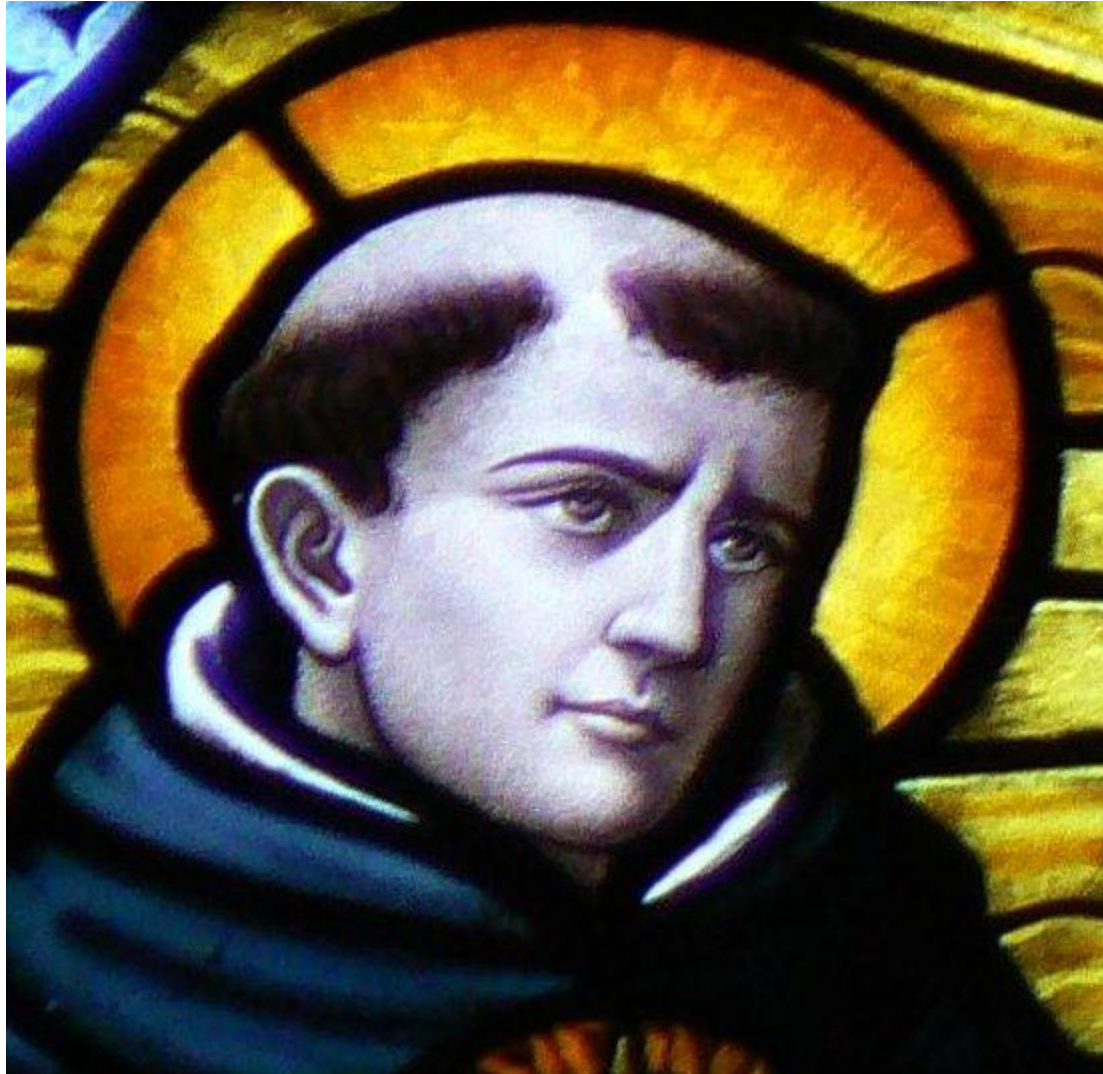
John Thirlwell

IRM, Manchester, 20 January 2011



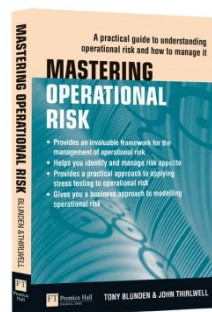
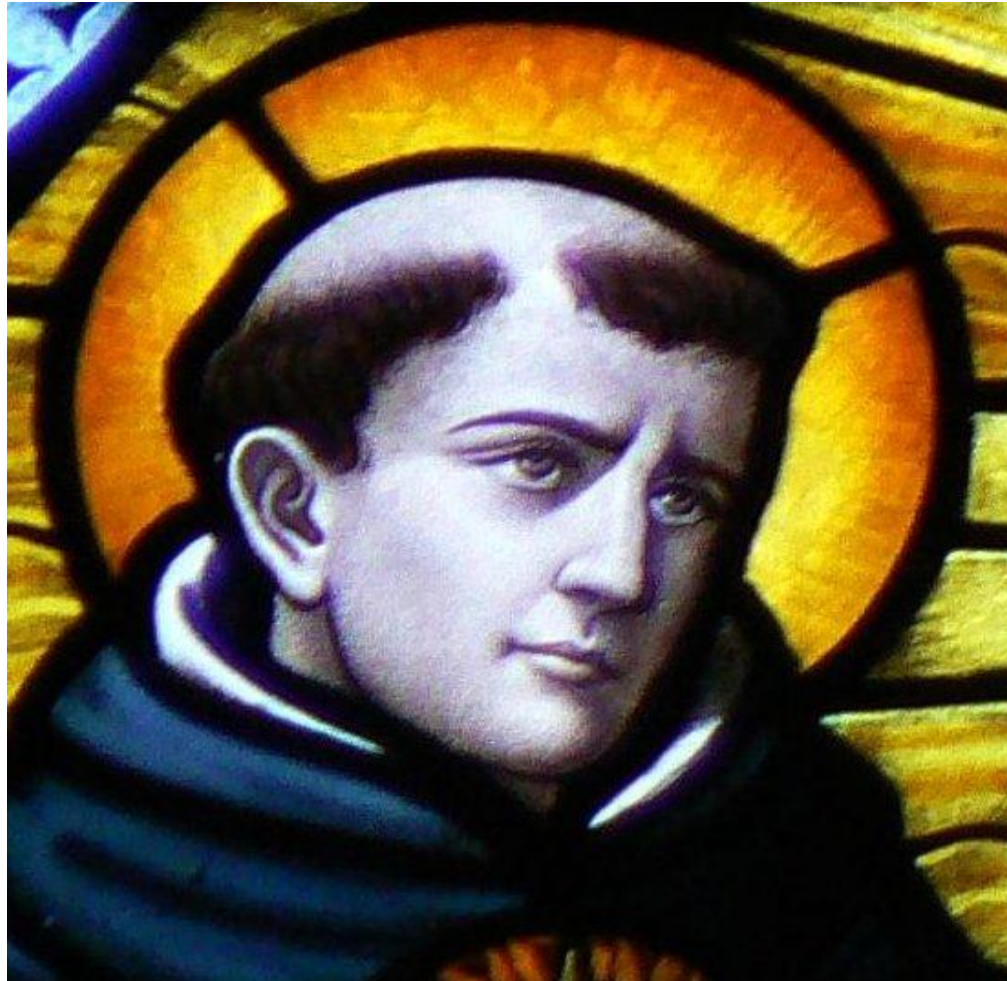
- What do we mean by operational risk?
- The operational risk management framework:
 - Governance
 - Health warnings
 - Benefits
- People risk





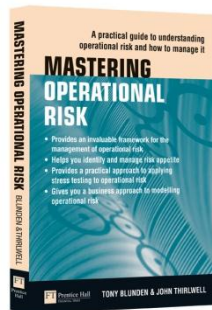
'The world has never been so full of risk'

(Thomas Aquinas, 1245)

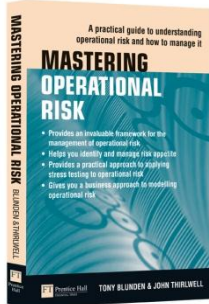


National security strategy (Oct 2010)

| TIER 1 | TIER 2 |
|-----------------------------------------------------------------------------|-----------------------------------------------------------|
| International terrorism | Chemical, biological, nuclear, radioactive (CBNR) weapons |
| Cyber attacks and large scale cyber crime | Overseas insurgency creating environment for terrorism |
| Major accident or natural hazard, e.g. extensive coastal flooding, pandemic | Organised crime |
| International military crisis | Satellite communications disrupted |



| Year | Event |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1988 | Piper Alpha oil rig (North Sea) |
| 1993 | Metallgesellschaft |
| 1995 | Barings Bank (+ Daiwa (1995), Sumitomo (1995), Allfirst/Allied Irish (2002), National Australia Bank (2004), Société Générale (2008)) |
| 1998 | Long Term Capital Management |
| 2000 | Millennium Bug |
| 2001 | World Trade Center (9/11) |
| 2001 | Enron/Arthur Andersen |
| 2003 | SARS near-pandemic |
| 2005 | Hurricane Katrina (+ Dennis, Emily, Rita, Wilma) |
| 2010 | BP/Deepwater Horizon oil spill (+ Texas City (2005), Alaska pipeline (2006)) |
| 2010 | Eyjafjallajökull (Iceland) volcano |



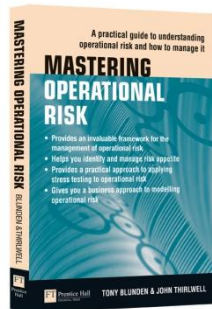
Defining operational risk

‘Operational risk is the risk of direct or indirect losses resulting from inadequate or failed processes, people or systems, or from external events.’ [*Operational risk: the next frontier*. RMA/PriceWaterhouseCoopers, 1999]

‘The risk of **loss** resulting from inadequate or failed **internal** processes, people or systems or from external events’ [Basel II]

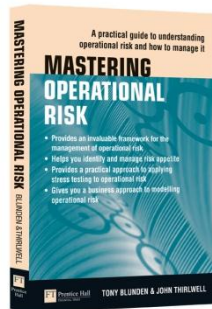
- includes legal risk; excludes strategic and reputational risk
- regulatory risk?

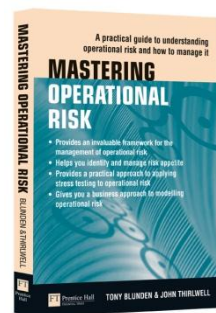
‘The risk of loss **arising** from inadequate or failed internal processes, **or from** personnel and systems, or from external events.’ [Solvency II]



Is operational risk different from other risks?

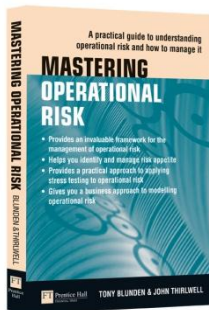
| | Credit, market, commodity, liquidity | Operational |
|------------------------------------------------------------------------|--------------------------------------|-------------|
| Is the risk transaction-based? | | |
| Is the risk assumed proactively ? | | |
| Can it be identified from accounting information e.g. the P&L? | | |
| Can audit confirm that every occurrence of the risk has been captured? | | |
| Can its financial impact be capped or limited? | | |
| Can you trade the risk? | | |
| Is everybody in the firm responsible for the risk? | | |
| Does the risk affect every activity? | | |



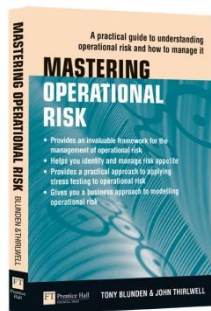


An attempt to frame the unframeable, to assuage fears about the uncontrollable 'rogue others' and to tame the man-made monsters [of the financial system].

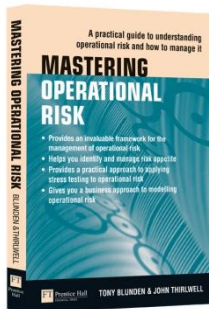
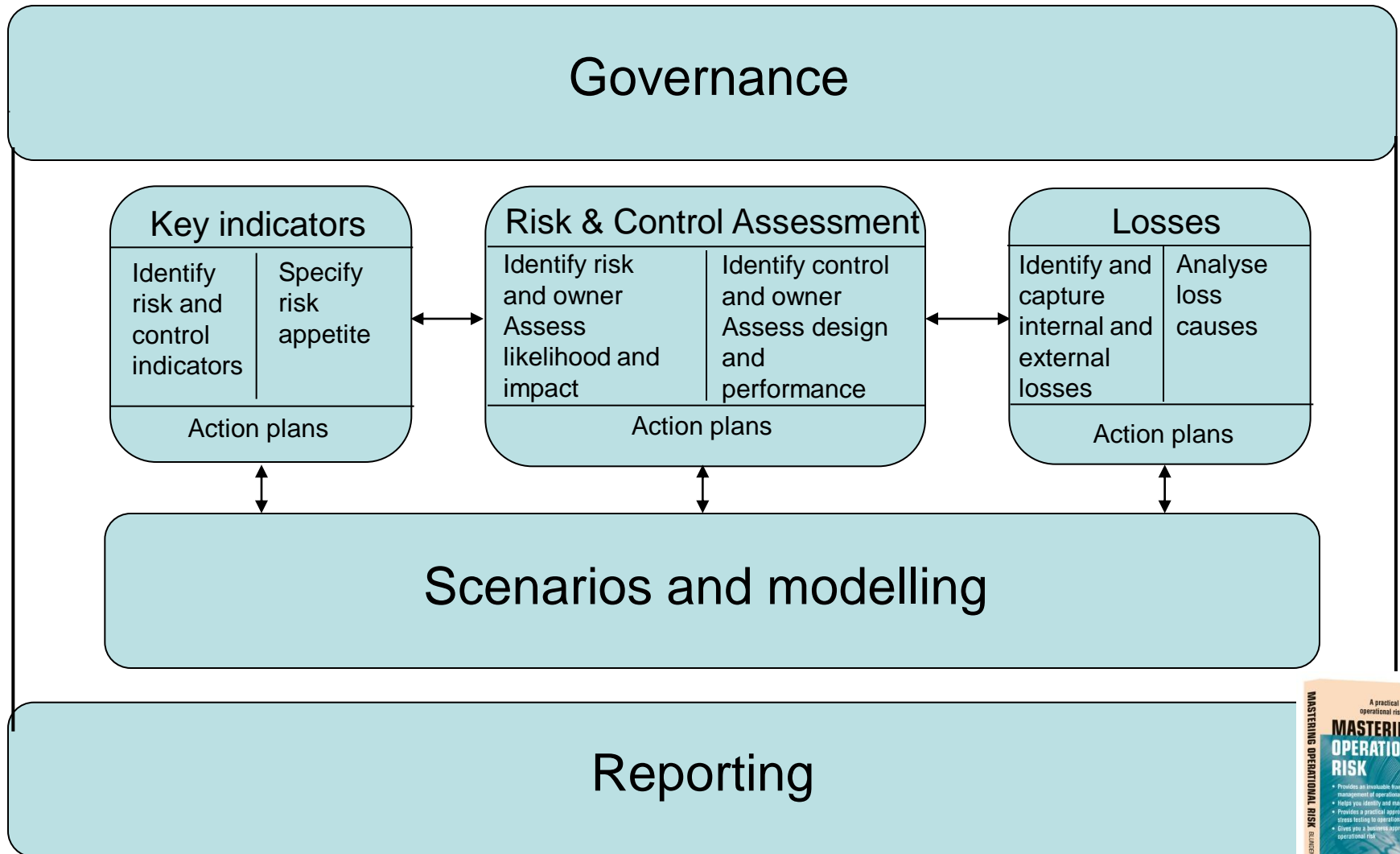
Prof Michael Power, *Organized uncertainty : designing a world of risk management* (OUP, 2007)



- What do we mean by operational risk?
- The operational risk management framework:
 - Governance
 - Health warnings
 - Benefits
- People risk

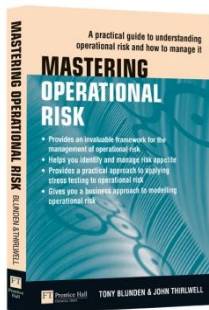


ORM Framework

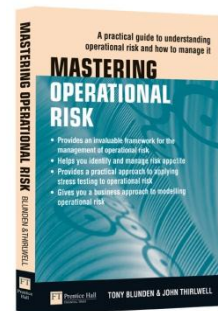
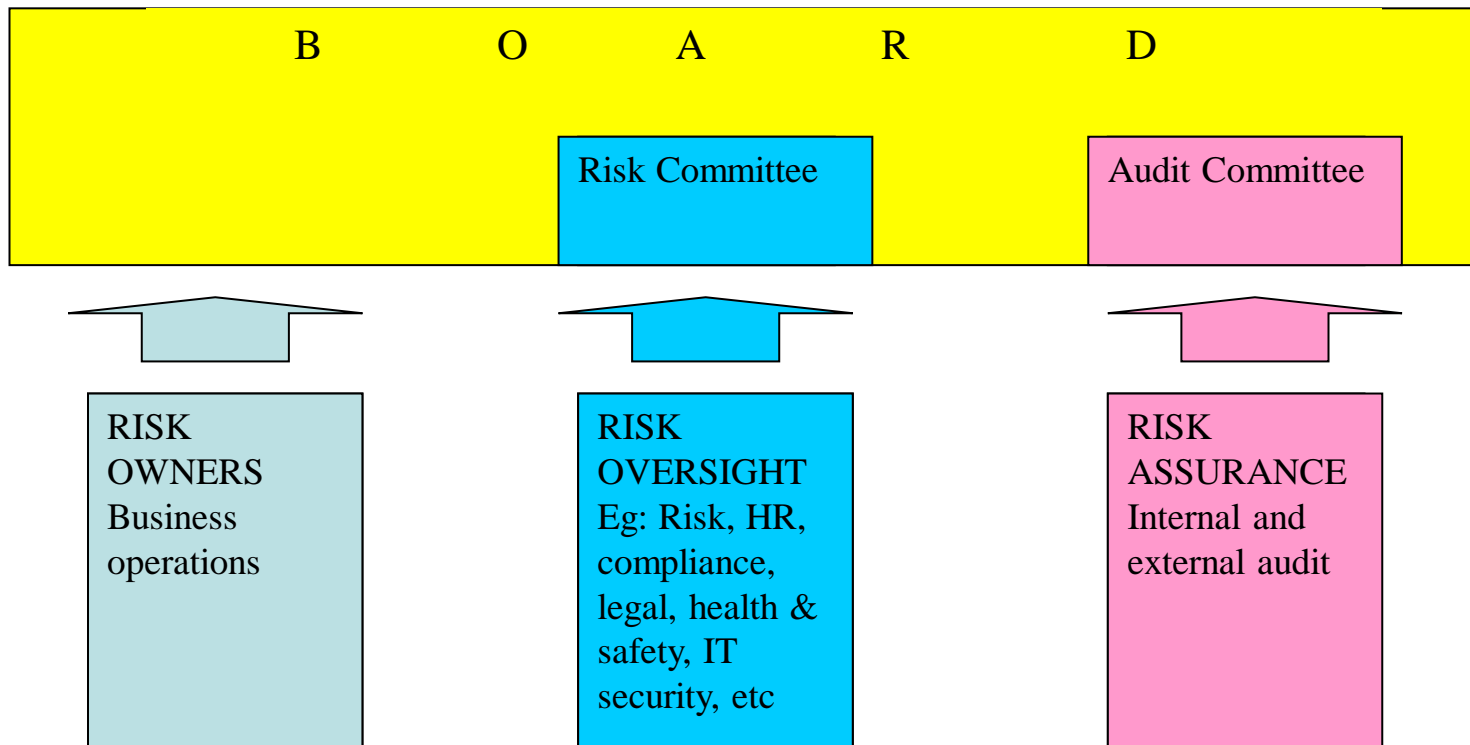


Board

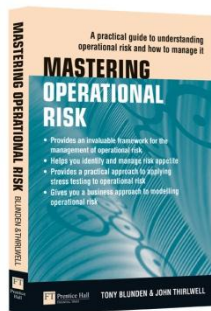
- Leadership
 - Culture
 - Tone from the top / tune in the middle
- Strategy and objectives
- Appetite
- Risk, the Risk function and Risk Committee
- Reporting and communication



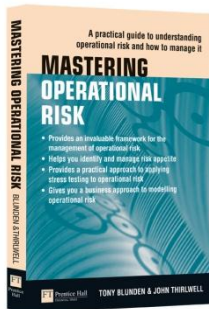
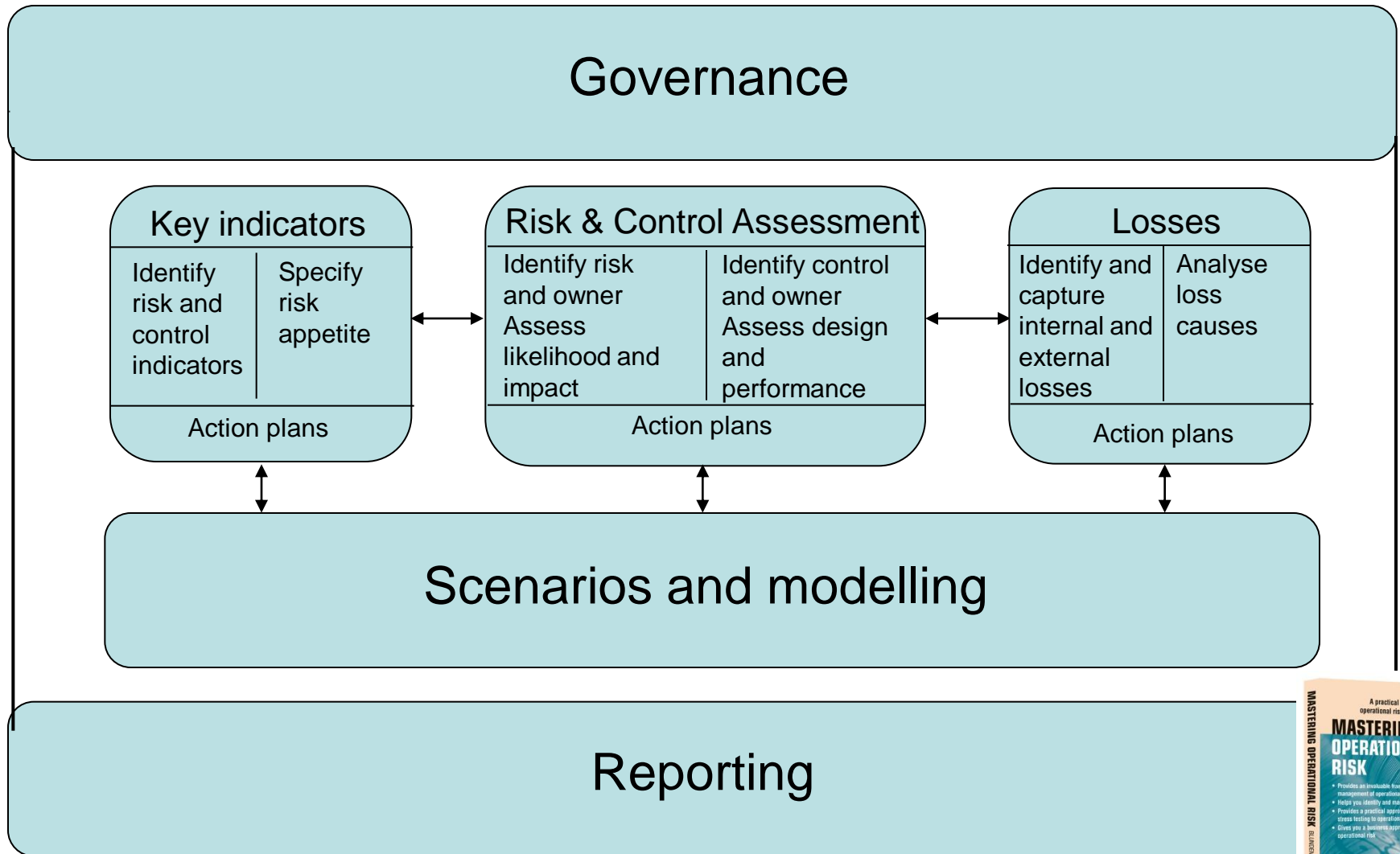
Where does the operational risk function sit?



- What do we mean by operational risk?
- The operational risk management framework:
 - Governance
 - Health warnings
 - Benefits
- People risk

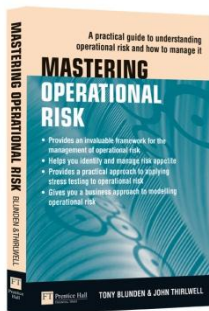


ORM Framework



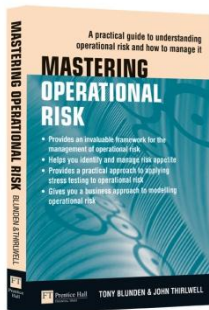
The risk register

or 'What needs to go right?'



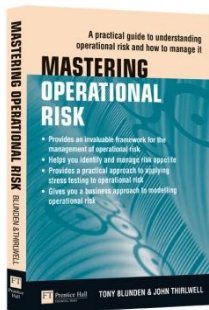
Issues and decisions concerning loss event data

- Which losses?
 - Reporting threshold
 - Near misses
 - “Boundary” losses
 - Gains
- Amount – the basis of severity
- Date – the basis of frequency
- Loss category

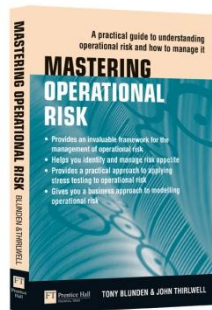
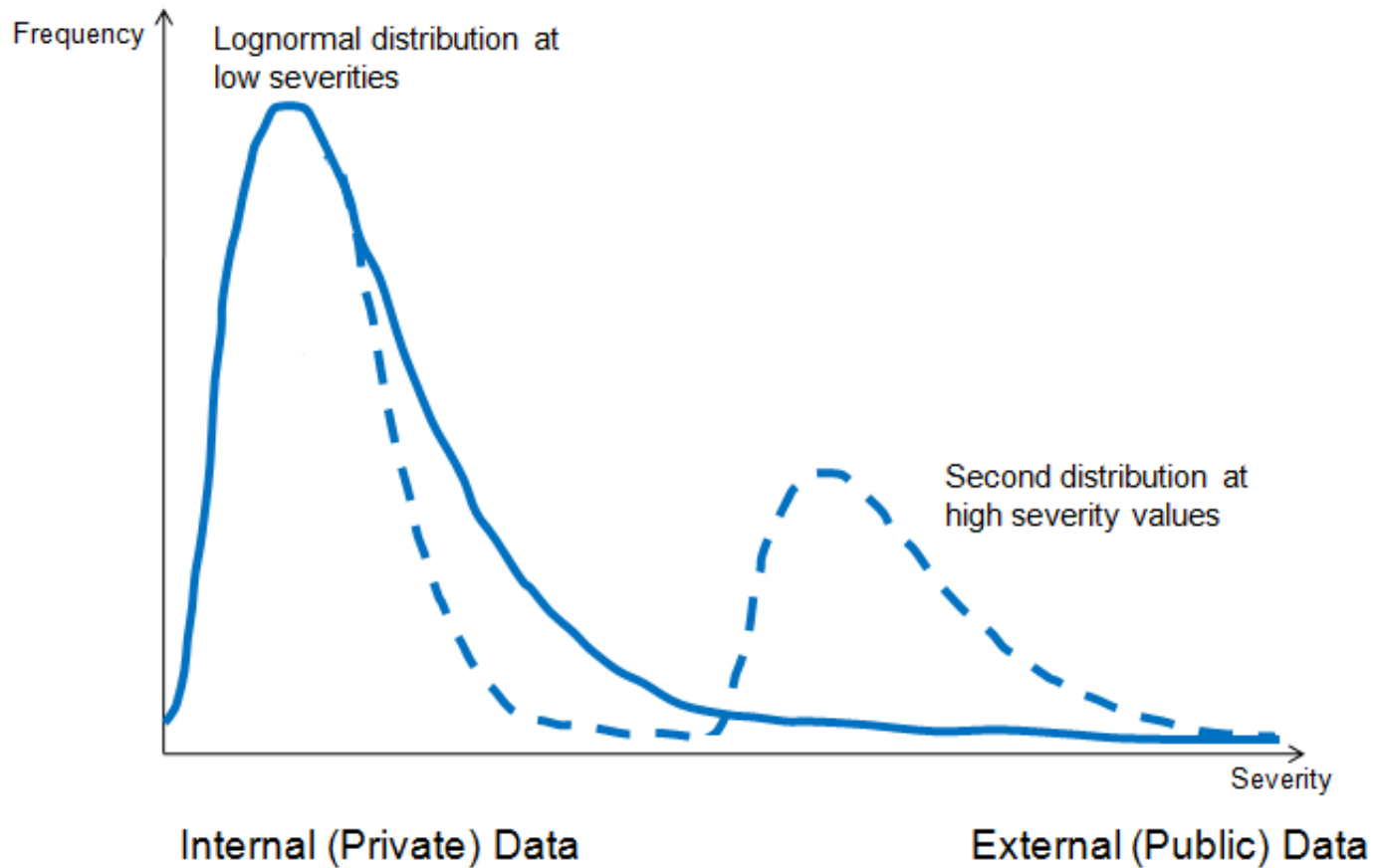


Realities of risk event data

- It will be incomplete, scarce and patchy, even allowing for external data – the ‘tail’ problem.



Lognormal and bimodal distributions

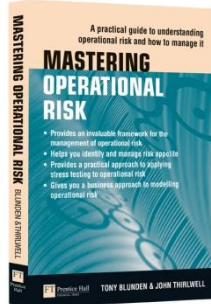


Realities of risk event data

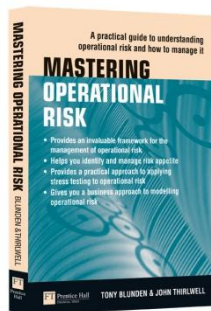
- It will be incomplete, scarce and patchy, even allowing for external data – the ‘tail’ problem.
- It will be inconsistently reported although, once reported, it is auditable.
- It is historic and backward looking. Major events will probably have led to tighter controls, change of policy etc.
- It can validate indicators, risk and control assessments and scenarios
- It is the beginning of the essential chain of:

Data → information → knowledge → understanding

BUT THAT ONLY COMES WITH . . .



Felix qui potuit rerum cognoscere causas (Vergil, *Georgics*)

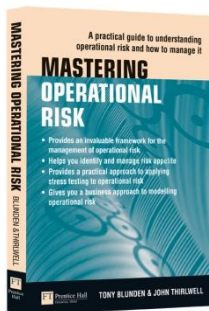


Felix qui potuit rerum cognoscere causas

(Vergil, *Georgics*)

It is the cause, it is the cause, my soul.

(Shakespeare, *Othello*)

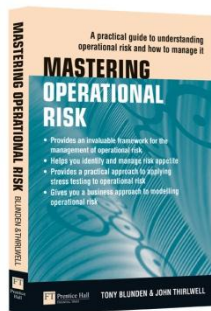
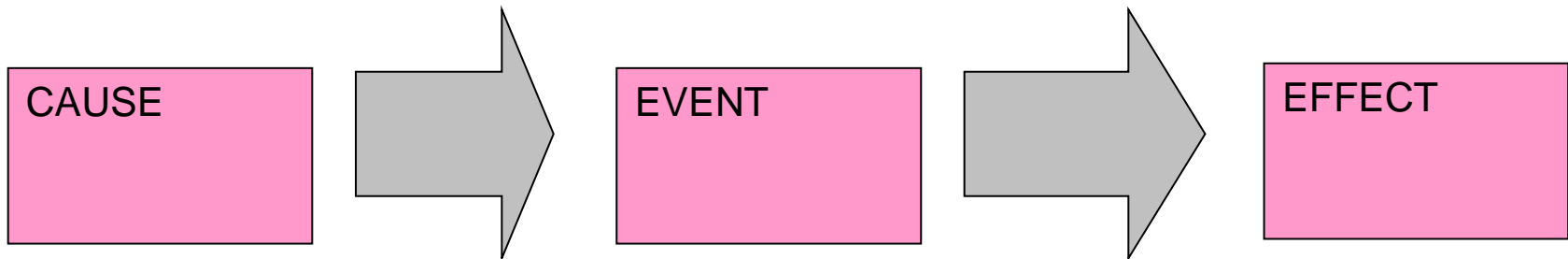


Felix qui potuit rerum cognoscere causas

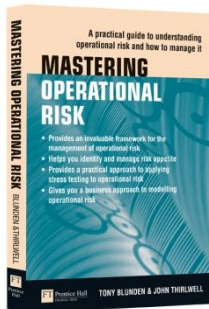
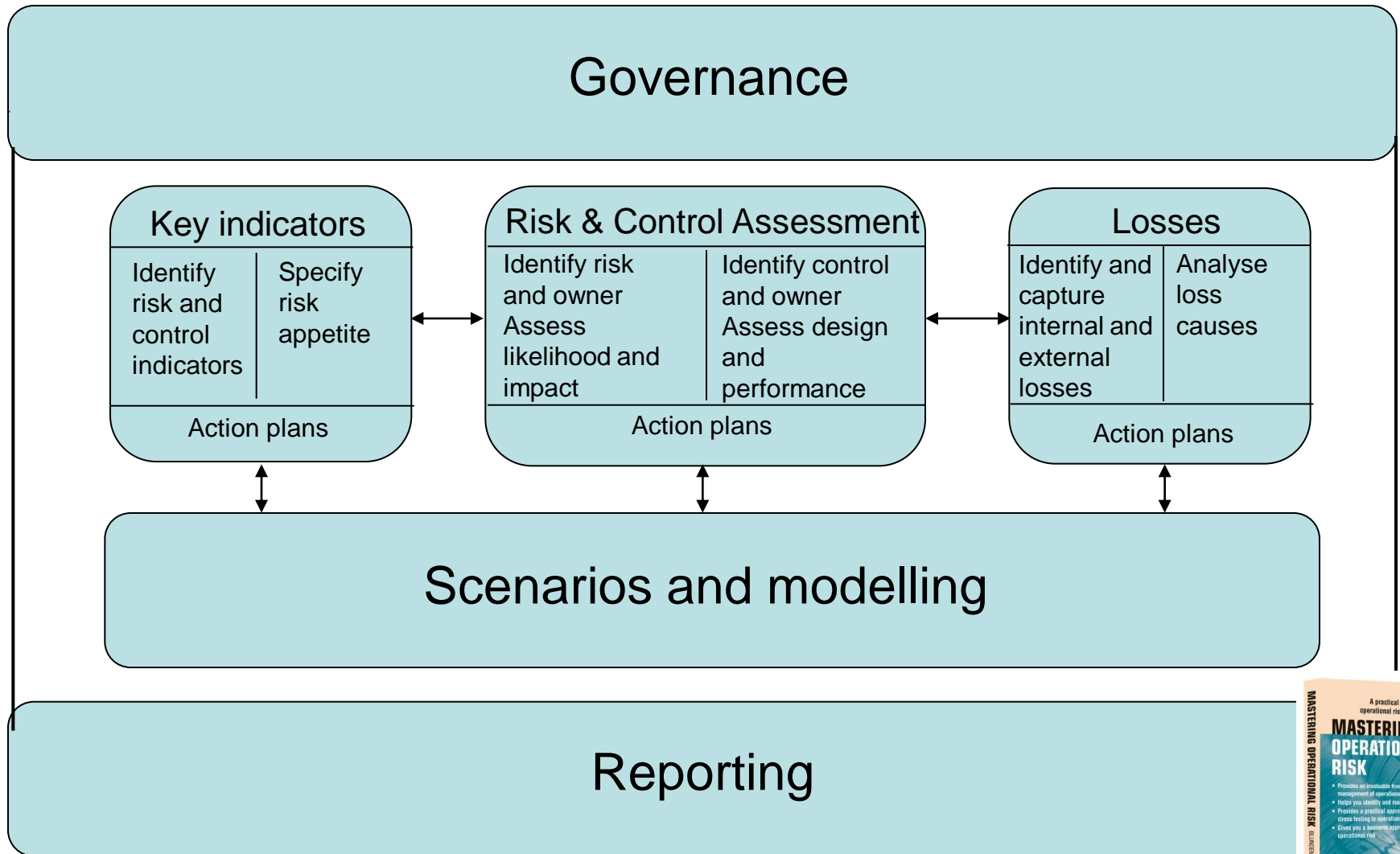
(Vergil, *Georgics*)

It is the cause, it is the cause, my soul.

(Shakespeare, *Othello*)

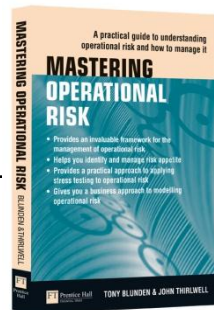


ORM Framework



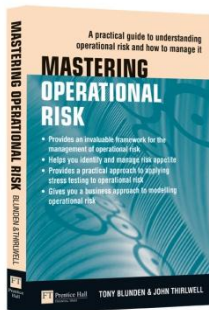
Traditional risk management

| | | | | |
|-------------------------------|---------|-------------|--------------|----------|
| Likelihood High (4) | 4 | 8 | 12 | 16 |
| Med High(3) | 3 | 6 | 9 | 12 |
| Med Low (2) | 2 | 4 | 6 | 8 |
| Low (1) | 1 | 2 | 3 | 4 |
| Impact | Low (1) | Med Low (2) | Med High (3) | High (4) |



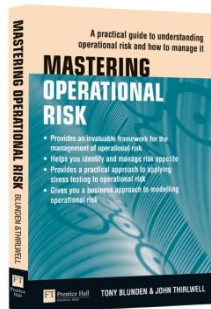
Intelligent ORM

| | | | | |
|-------------------------------|---------|-------------|--------------|----------|
| Likelihood High (4) | 4 | 8 | n/a | n/a |
| Med High(3) | 3 | 6 | 9 | n/a |
| Med Low (2) | 2 | 4 | 6 | 8 |
| Low (1) | 1 | 2 | 3 | 4 |
| Impact | Low (1) | Med Low (2) | Med High (3) | High (4) |

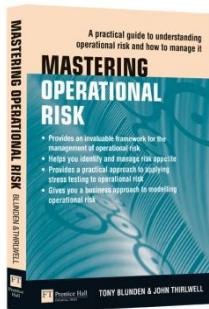
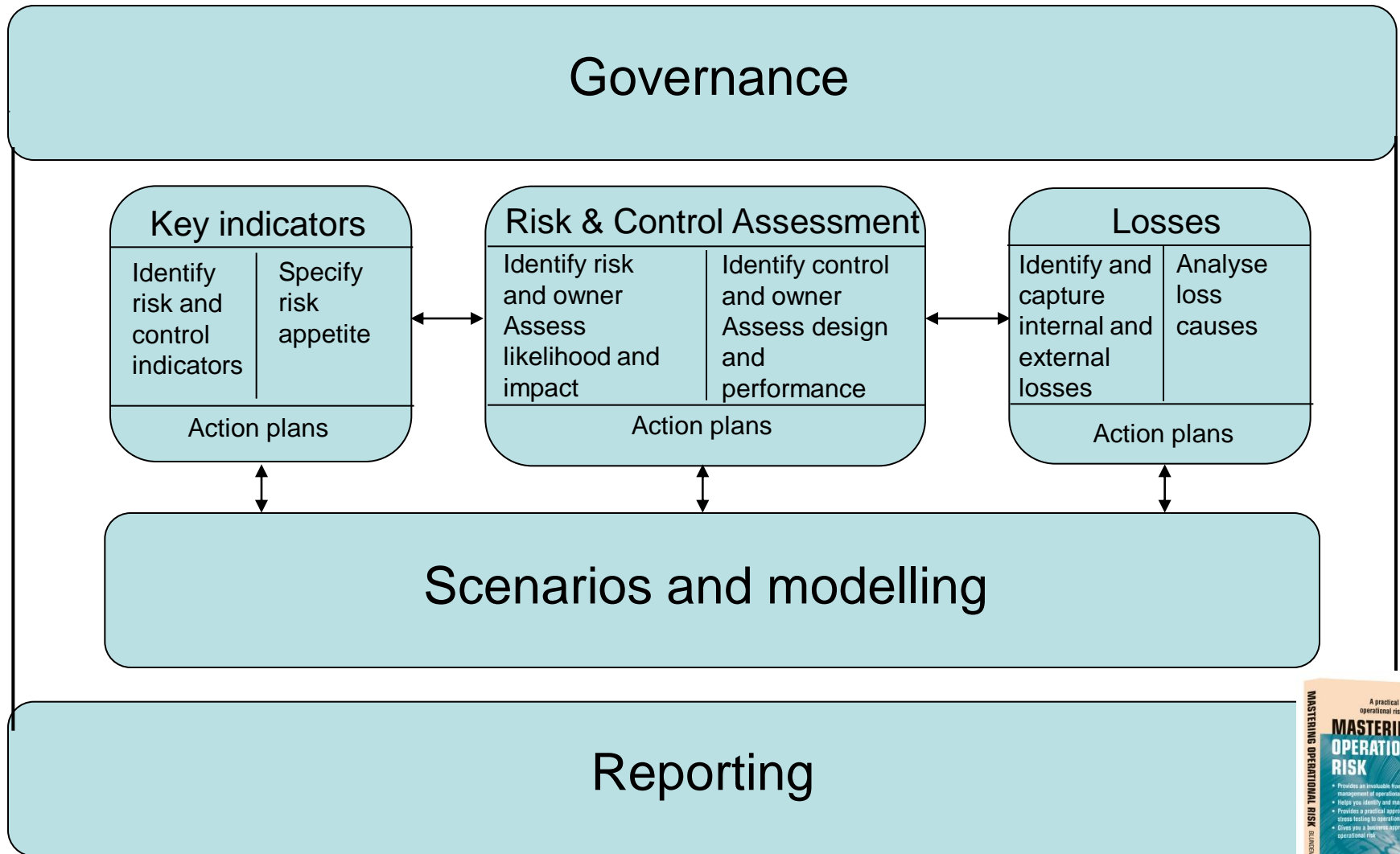


Issues with risk and control assessments and scenarios

- Subjective biases
 - Availability bias
 - Motivational bias
- Peer review
- Combination of events *over a period of time* (scenarios)
- Lack of management buy-in
- Lack of feedback
- Lack of follow-up
- Failure to use in-house data as validation (e.g. risk indicators, loss data)



ORM Framework



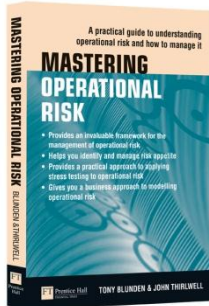
Some Nobel thoughts on quantification

Unlike the position that exists in the physical sciences, in economics and other disciplines that deal with essentially complex phenomena [*operational risk?*], **the aspects of the events to be accounted for about which we can get quantitative data are necessarily limited and may not include the important ones.**

[Friedrich von Hayek, *Pretence of Knowledge*, Nobel acceptance speech 1974]

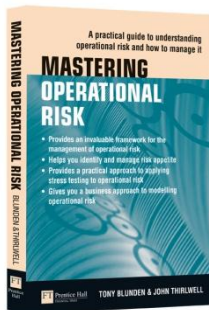
Our knowledge of the way things work, in society or in nature, comes trailing clouds of vagueness. **Vast ills have followed belief in certainty.**

[Kenneth Arrow, *I know a hawk from a handsaw* CUP 1992]

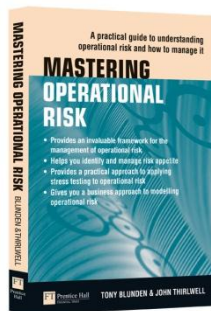


Modelling operational risk - a qualitative approach

- Use existing risk and control assessments
- No need to wait for adequate loss history
- How it might work:
 - Set up ranges
 - Assess impact and likelihood of risks
 - Assess failure probabilities of controls
 - Correlate risks (if possible)
 - Challenge input
 - Run Monte Carlo simulations
 - Assimilate results and reports



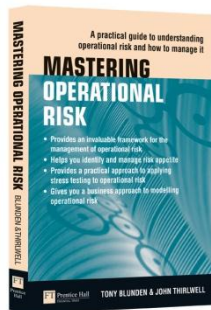
- What do we mean by operational risk?
- The operational risk management framework:
 - Governance
 - Health warnings
 - **Benefits**
- People risk



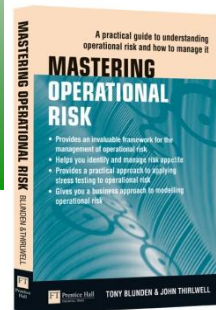
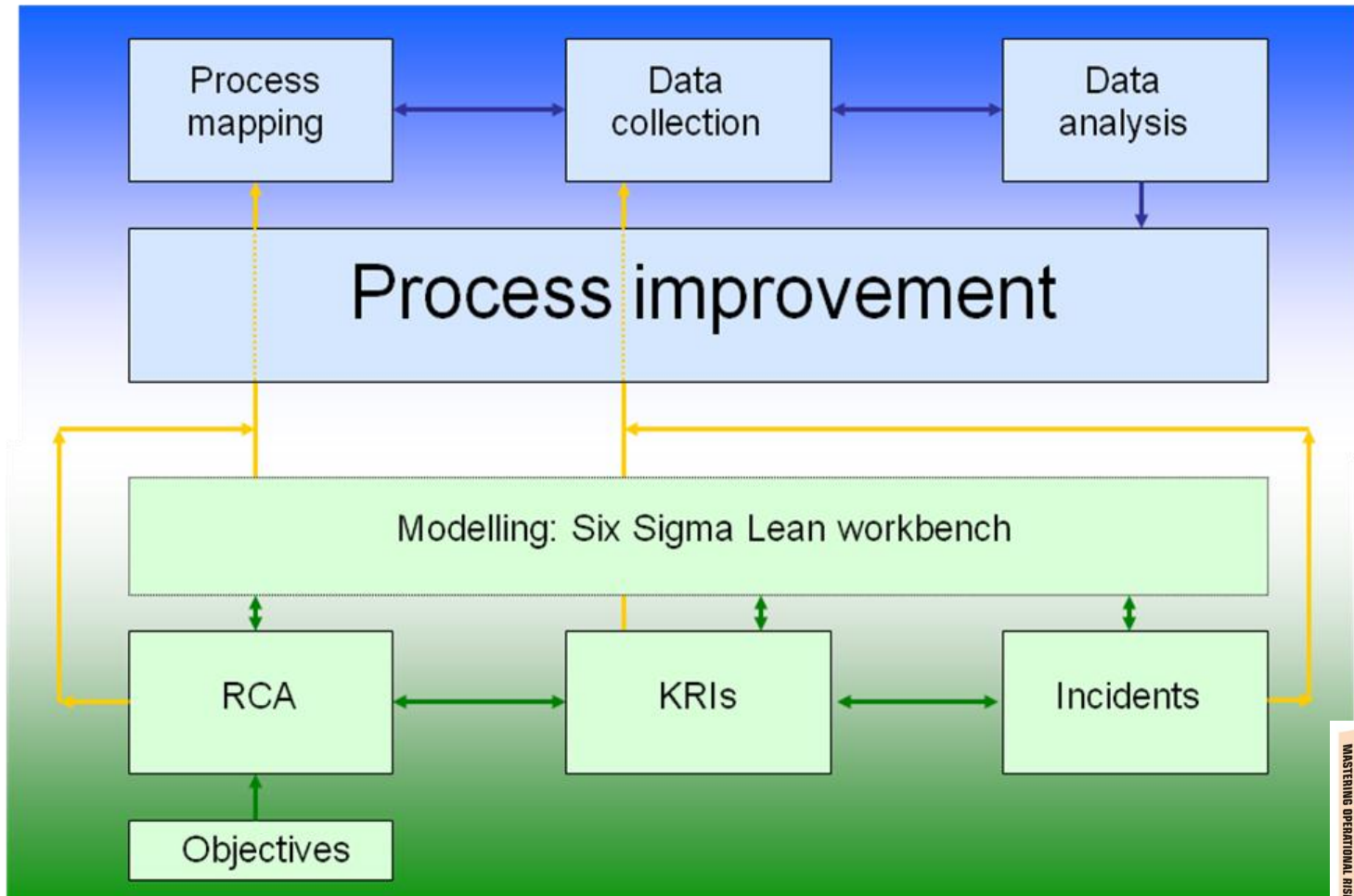
Benefits of an effective operational risk management framework

Informed decision making

- Understanding the OR context of decisions (governance)
- Distinguishing and differentiating *your* operational risks (RCA)
- Assessing past problems (losses)
- Knowing where you are now (indicators)
- and where you may be heading (scenarios)
- Allocating capital (modelling)
- Getting the right information (reporting)

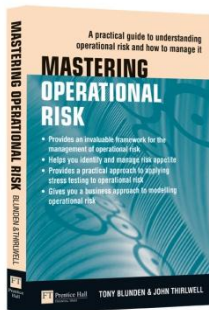


Interaction of operational risk management and Six Sigma and Lean

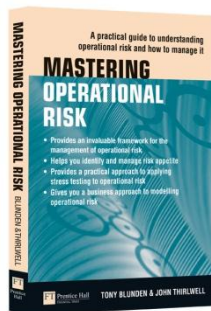


Other benefits of operational risk management

- Business continuity planning
- Insurance buying
- Outsourcing
- Project management
- Reputational damage limitation
- People risk management

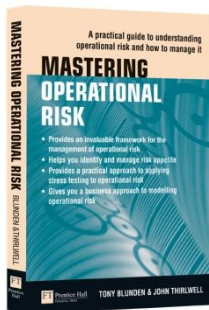


- What do we mean by operational risk?
- The framework
 - Some pitfalls
 - Its benefits
- People risk



People risk

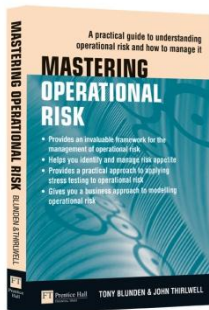
- Operational risk is the **risk of loss from inadequate or failed** internal processes, **people** and systems or from external events.
- ‘80% of operational risk is down to human error or management failure.’
(Jonathan Howitt, ex Head of operational risk, Dresdner Kleinwort Benson, PRMIA, 2004)



People risk – the financial crisis

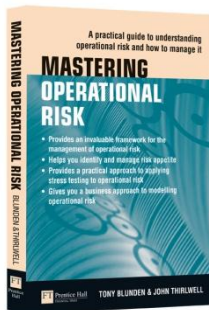
Financial crisis

- Asset bubble
- Politicians, regulators, central banks
- Failure to apply good risk management
- Failure to apply good risk governance
- Human behaviour (greed, herd instinct)



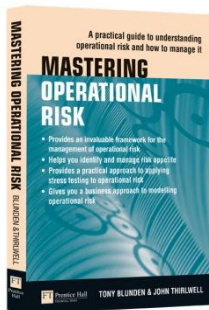
People risk essentials

- Leadership and culture
 - Openness and transparency
 - Communication
- Corporate strategy and objectives
 - Excellent behaviours defined
- Change and flexibility



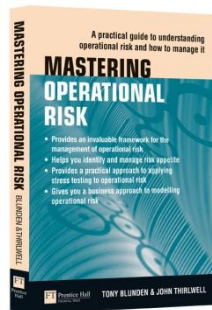
Senior people risk

- The people risk of the CEO
- The people risk role of the CEO
 - Culture > what we mean by excellent behaviour
 - The CEO's behaviour (tone from the top)
- The people risk of risk management



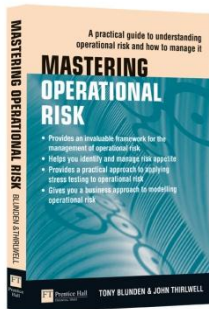
People risk: causes, controls and indicators

- Objectives and, through them, behaviours are the drivers for key people risk controls:
 - Selection
 - Appraisal and performance management
 - Training
 - Reward
 - Succession planning
- People risk and reputation risk
- People risk indicators



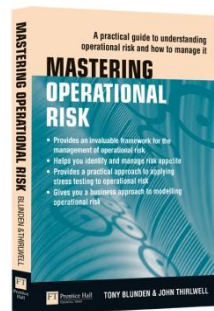
People risk and HR

- Is HR a transactional or a risk function?
- Much risk is managed by good HR. How much is managed by a good HR department?
- Understanding and predicting risk is highly dependent on understanding human and organisational behaviour. HR has a role as senior management's guide.
- Would the HR Director be on the short-list for CEO or COO?

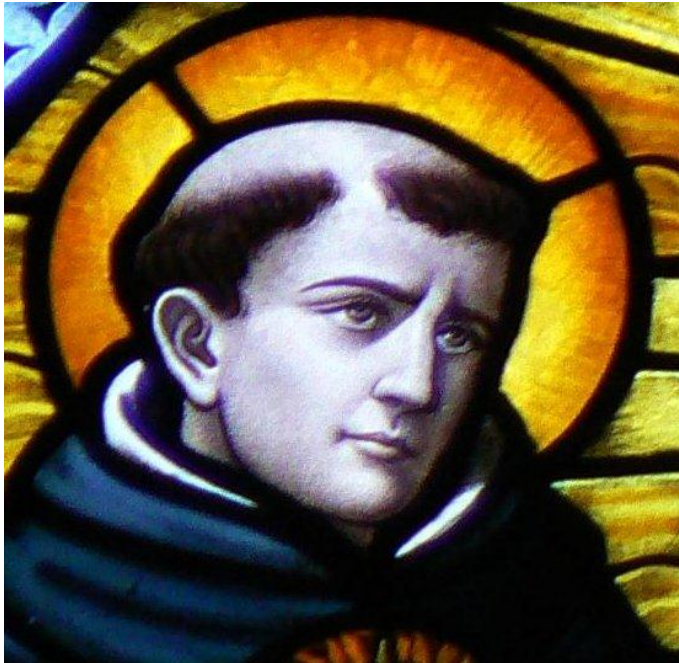


- All risks should be viewed through a people lens and all people issues viewed through a risk lens

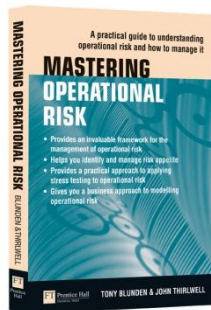
Good people management
is good risk management
is good operational risk management



‘The world has never been so full of risk.’



‘infinite variety’



Contact details

John Thirlwell

Tel: +44 (0) 208 386 8019

Mob:+44 (0) 781 382 9362

e-mail: info@johnthirlwell.co.uk

Web: www.johnthirlwell.co.uk

www.masteringoperationalrisk.com

