

Managing risk appetite for operational and non-financial risks

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Agenda

- What do we mean by operational and non-financial risks?
- What do we mean by risk appetite?
- A framework for managing operational / non-financial risk appetite
- Uses and benefits

Defining operational risk

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

Is operational risk different from other risks?

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



Liquidity Risk

Underwriting Risk

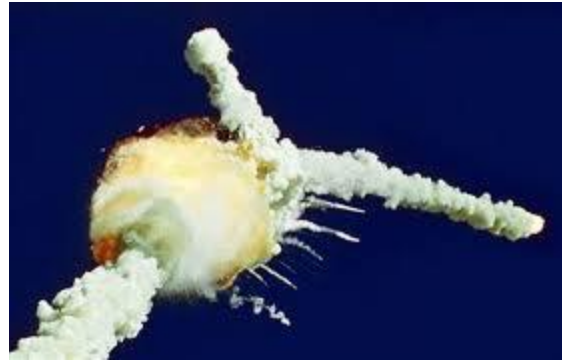
Operational Risk

(including Strategic Risk)

Market/Product Risk

Group Risk

Credit Risk





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- What do we mean by operational and non-financial risks?
- **What do we mean by risk appetite?**
- A framework for managing operational / non-financial risk appetite

Risk appetite definitions

‘The amount and type of risk that an organisation is willing to take to achieve its strategic objectives [over a specified time horizon at a given level of confidence]’

‘Amount and type of risk that an organisation is prepared to seek, accept or tolerate.’ (ISO 31000:2009)

‘The amount of risk which is taken for reward.’

A regulatory perspective on ORA

‘Operational risk differs from other banking risks in that it is typically not directly taken in return for an expected reward, but exists in the natural course of corporate activity.’ [Basel Committee]

Appetite, in the true sense, may not be appropriate. But a residual level of operational risk (events) may be tolerable, for example where the cost of mitigating the risk outweighs its impact, or where the cost can be mitigated by income. [UK FSA]

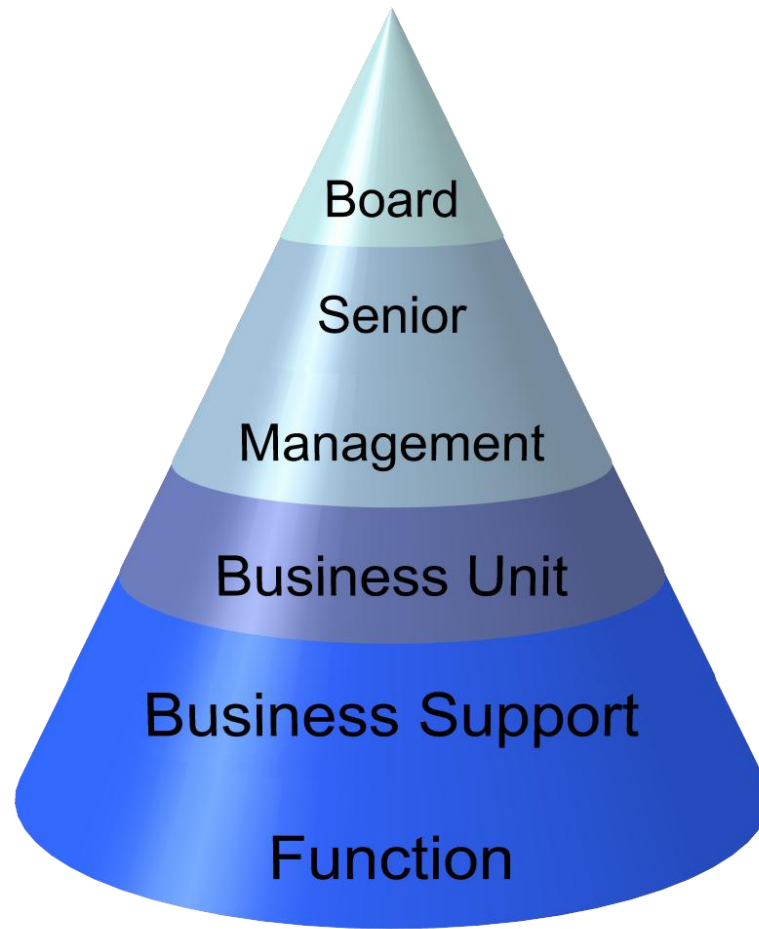
Risk appetite and risk tolerance

- Risk tolerance
 - The maximum amount of risk which can be taken before financial distress
 - What you are prepared to allow the organisation to deal with

Operational risk appetite(s)

- No single appetite figure for operational risk appetite.
- Different nature of risks and different approaches to these risks mean different approaches to measures of risk appetite.
- Can be expressed quantitatively or qualitatively through losses (number and amount), risk and control assessments, risk indicators or qualitative statements.

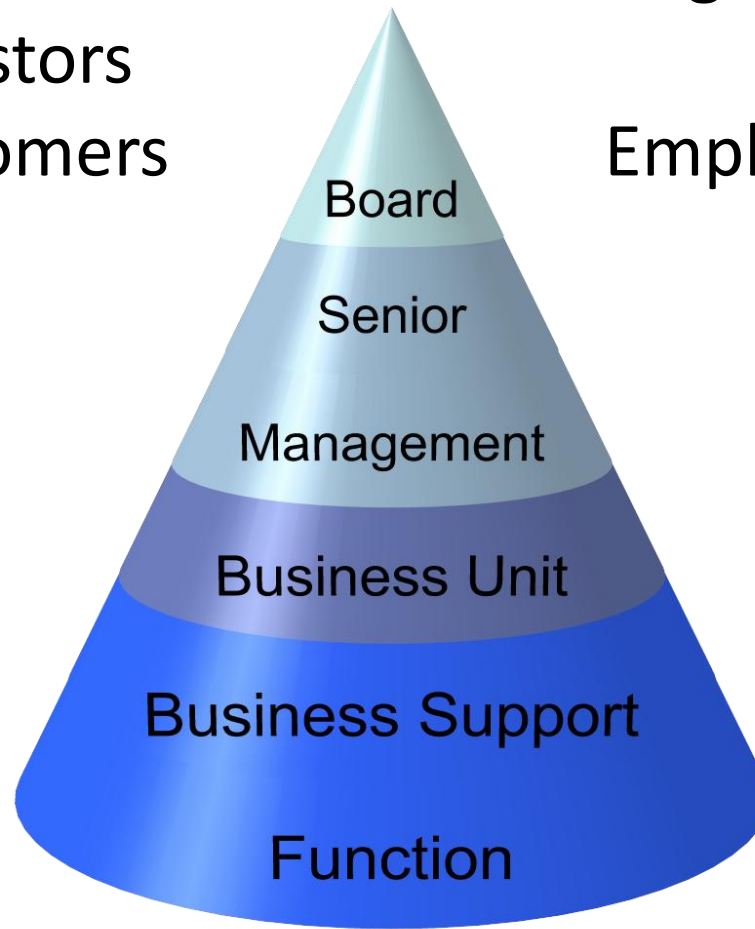
Whose risk appetite is it anyway
-and how might they express it?



Whose risk appetite is it anyway?

Politicians
Investors
Customers

Regulators
Public
Employees



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Governance

- Committed and consistent leadership
- Business strategy and objectives – the context for:
 - Risk management
 - Risk appetite
 - Risk policy - establish a common language

Classifying risks and ORA

- Identifying and classifying risks
 - Accept – as BAU, mitigated by capital and reserves or business performance and/or margins
 - Accept – willing to invest in controls and mitigants
 - Avoid – transferred through, for example, insurance
 - Avoid – transformed through, for example, outsourcing
 - Avoid

Appetite statements

- Simple - easily communicated and resonate with multiple stakeholders
- Practical - guiding management
- Allow flexibility – but not strategic drift
- Include:
 - Definition
 - Term / time horizon and confidence level
 - Monitoring
- Measurable, although can be qualitative

Example appetite statements

- We seek to minimise the downside risk from the impact of unforeseen operational failures within our business and in our suppliers and service providers.
- The firm has no appetite for individual operational losses above £x and cumulative losses above £y within a 12 month period. Any operational risk losses exceeding £z are reported to the Group Operational Risk Committee.
- ‘Zero appetite statements’
 - The firm has no appetite for financial crime and will implement appropriate measures to control it.
 - *Legal and regulatory* risks. The group has minimal risk appetite and seeks to operate to high ethical standards.



The Zero Harm Vision

Balfour Beatty's vision is for:

zero deaths

zero injuries to the public

zero ruined lives (amongst all
our people)

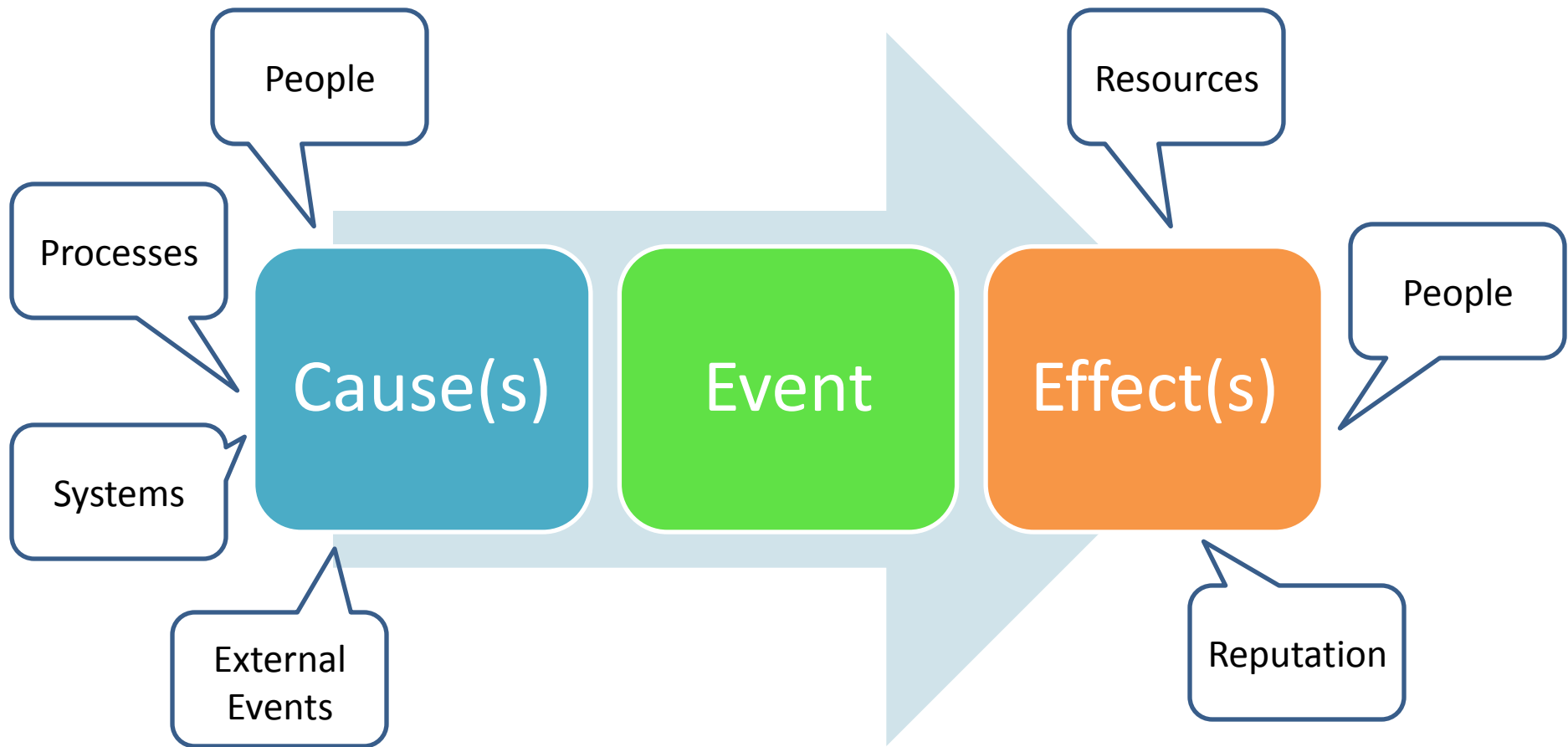
and one for the Board

Board and senior management must understand and be able to manage all risks.

[Senior Supervisors' Group report on developments in risk appetite frameworks, December 2010]

What measures can we use: loss events

- Which events or losses?
 - Amount (the basis of impact/severity)
 - Direct or indirect?
 - Date (the basis of likelihood/frequency)
 - “Boundary” losses
 - Multiple events
- Need to be clear what losses mean
- Data capture



A Nobel thought on quantification

Unlike the position that exists in the physical sciences, in economics and other disciplines that deal with essentially complex phenomena, **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]

So be humble and acknowledge the limitations of operational risk loss event data!

Losses and risk appetite



What measures can we use?

Risk and control assessments

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)

Residual risk (assuming controls work)

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)

Assessing risks

- How many bands or ranges?
- Ensure periods for likelihood and impact are appropriate
- Gross / inherent (assuming controls fail) or net / residual (assuming controls work)?

Identifying and assessing controls

- Types of controls:
 - Likelihood (cause)
 - Directive, e.g. policies, procedures, manuals
 - Preventative, e.g. system checks on limits
 - Impact (effect)
 - Detective, e.g. sensors, indicators
 - Corrective, e.g. follow-up on reconciliations, BCP
- Controls may mitigate more than one risk, but the application of the control may not be the same

Assessing control design and performance

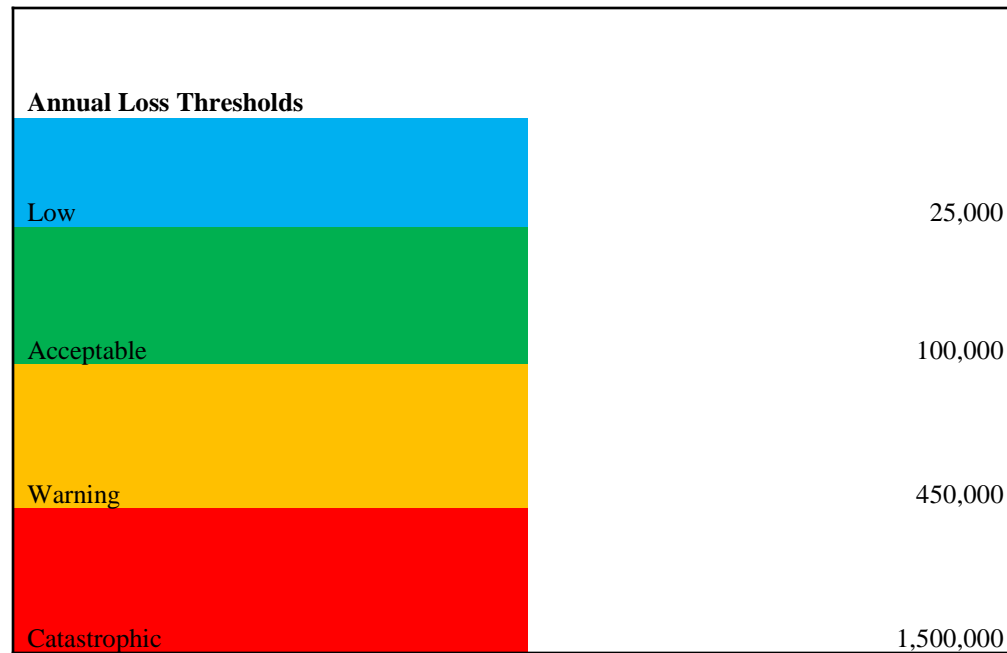
- Control effectiveness doesn't give clear control improvement guidance
- **Design** is the inherent ability of the control to mitigate the risk
 - And is often about **process or system**
- **Performance** is about how the control is working in practice
 - And is often about **people**

Example of risk and control assessment output

ID	Risks		I	L	S	Controls		D	P	E
1	Failure to attract, retain key staff	A	4	4	16	Salary surveys	D	2	2	4
						Training and mentoring	E	3	2	6
						Retention packages	D	4	4	16
2	Poor staff communication	B	4	4	16	Defined communication channels	F	4	3	12
						Documented procedures and processes	G	3	2	6
3	Poor detection of money laundering	C	4	3	12	AML training	D	3	2	6
						Circulation of trade association briefings	H	3	1	3
						Know Your Customer procedures	G	4	3	12

ORA using RCSA scores (step 1)

Board expressed residual appetite



ORA using RCSA scores (step 2)

Impact per event (£)			
	<u>L'bound</u>	<u>U'bound</u>	<u>Mid point</u>
Low	0	50,000	25,000
Med-low	50,000	150,000	100,000
Med-high	150,000	500,000	325,000
High	500,000	1,500,000	1,000,000

Likelihood of event (per annum)				
	<u>L'bound</u>	<u>U'bound</u>	<u>Alternative label</u>	<u>Mid point</u>
Low	0.04	0.10	10% likely in next year	0.07
Med-low	0.10	0.33	30% likely in next year	0.22
Med-high	0.33	1.00	Very likely in next year	0.67
High	1.00	12.00	Several times in next year	6.50

ORA using RCSA scores (step 3)

Annual Loss Thresholds	
Low	25,000
Acceptable	100,000
Warning	450,000
Catastrophic	1,500,000

IMPACT	High	70,000	220,000	670,000	6,500,000
	Med-high	22,750	71,500	217,750	2,112,500
	Med-low	7,000	22,000	67,000	650,000
	Low	1,750	5,500	16,750	162,500
		10% likely	30% likely	Very likely	Severe
LIKELIHOOD					

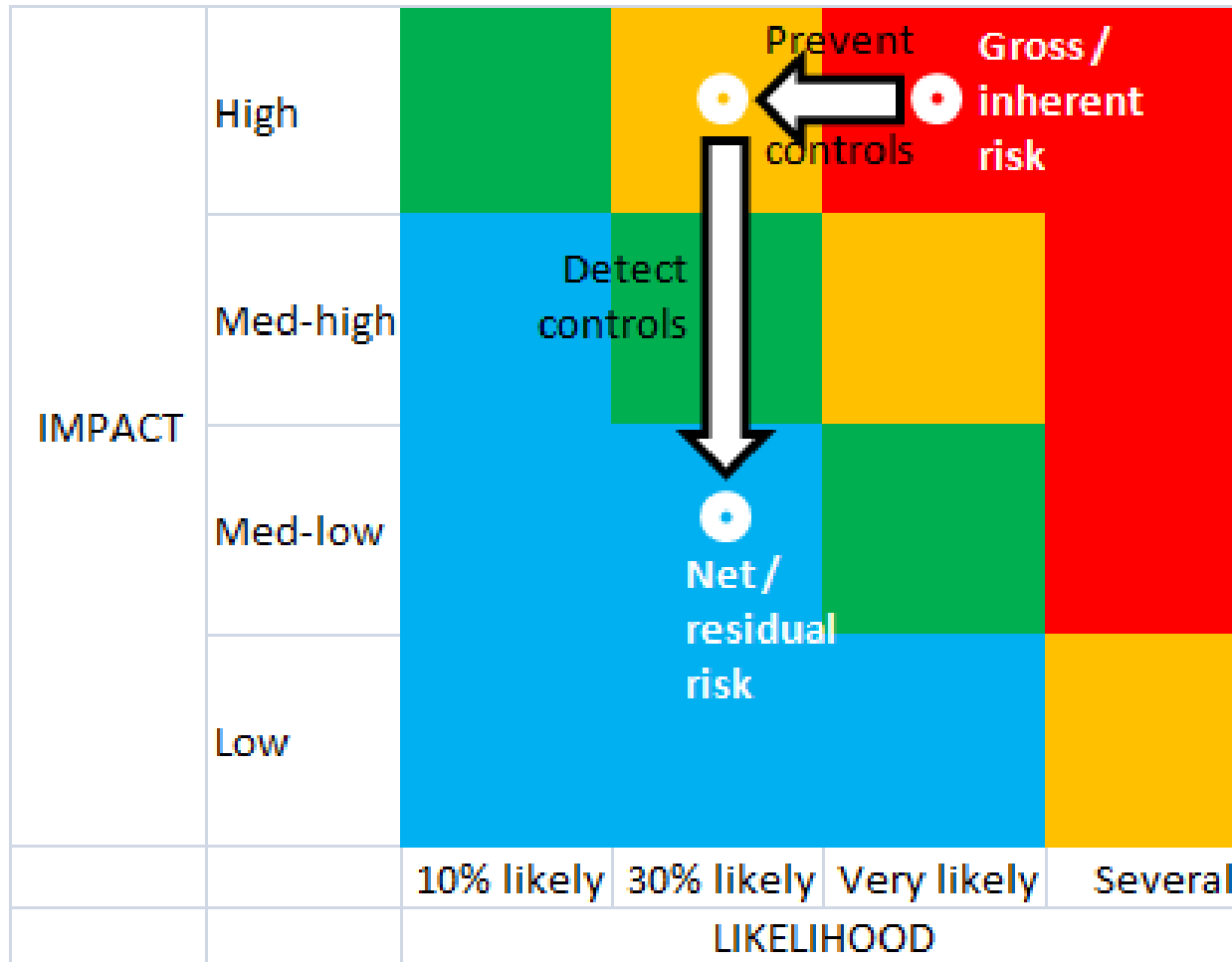
Control appetite

- ‘The amount a firm is willing to spend (in time, money and/or resources) to mitigate a risk to an acceptable residual level.’
- The aim can be expressed as:
 - Acceptable level of control assessment
 - Reduction in assessed risk from gross (inherent) to net (residual)
 - Targets and thresholds of key control indicators
 - Reductions in number and/or value of events and/or losses
 - Cost / benefit of risk profile reduction

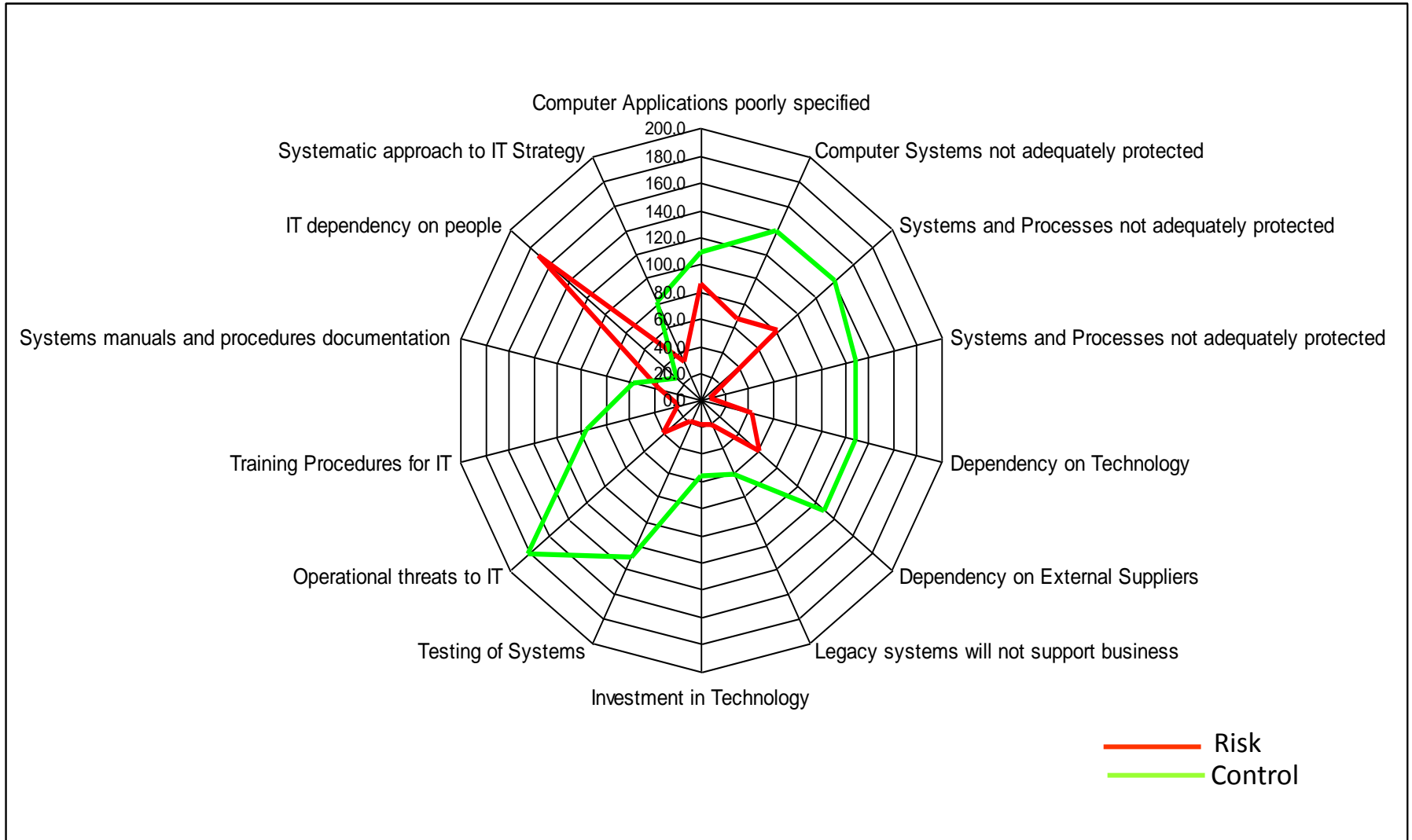
Types of controls

- Types of controls:
 - Likelihood
 - Directive, e.g. policies, procedures, manuals
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Using the right controls

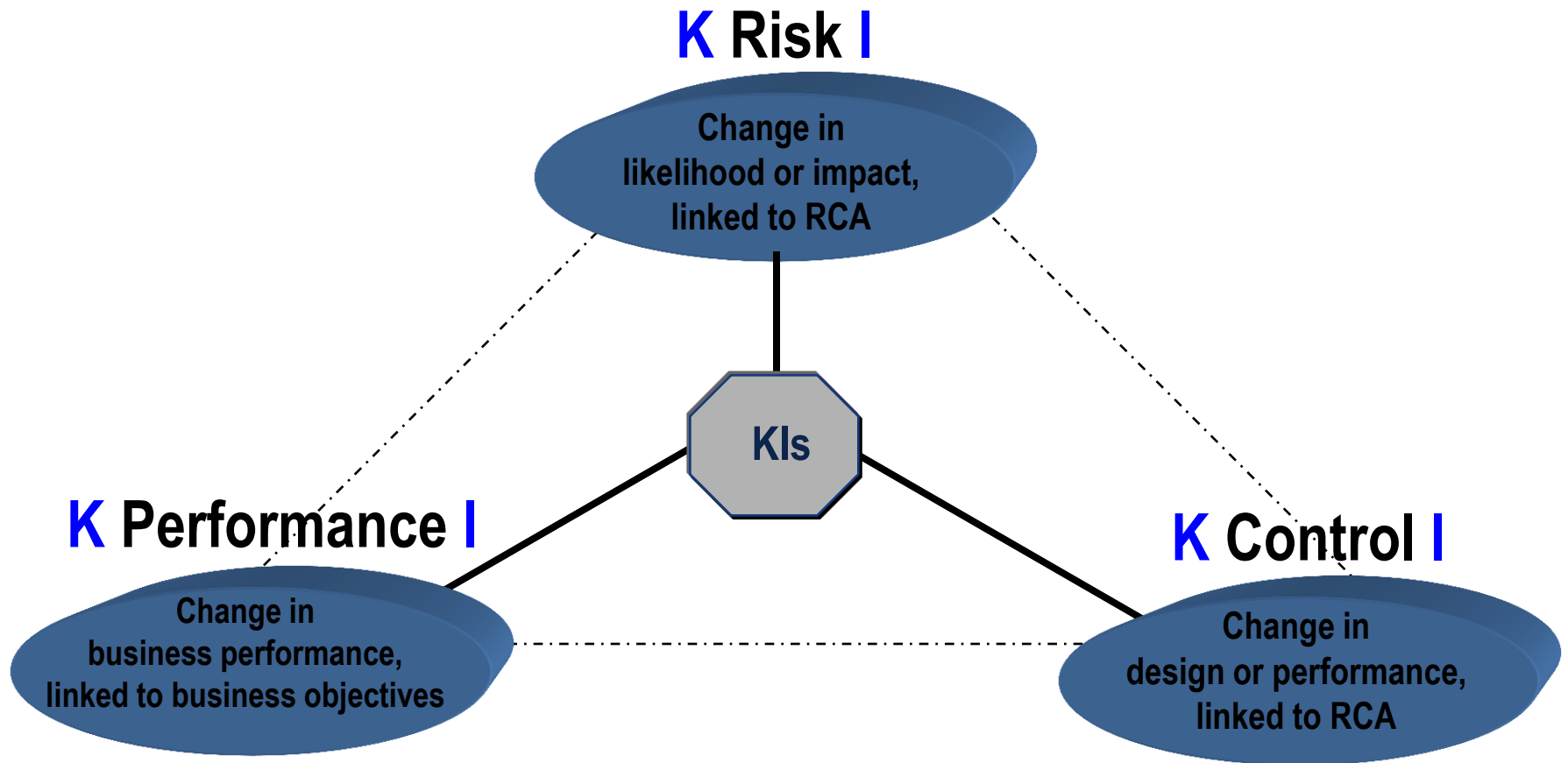


Spidergram: IT & Systems Risks & Controls



What measures can we use?

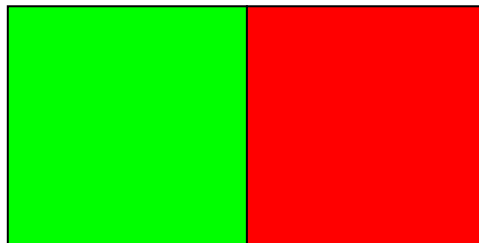
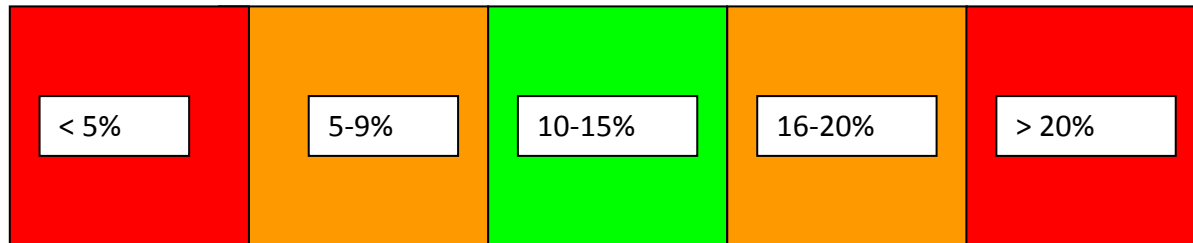
Indicators



Leading and lagging indicators

- Risk indicators
 - Likelihood indicators tell you about the chance of a risk happening (lead)
 - Impact indicators tell you about the effects of the risk when it has happened (lag)
- Control indicators
 - Preventative control indicators tell you about controls that stop a risk from happening (likelihood) (lead)
 - Detective control indicators tell you about controls which reduce the impact of a risk (lag)

Thresholds and targets



Risks and risk indicators for Audit Committees

Inappropriate tone at the top
Autocratic management
Inexperienced management
Poor management oversight
Frequent senior management over-rides
Overly complex organisational structures
Lack of transparency in the business model or
or transactions and the purposes of transactions
(Late) surprises
Unrealistic earnings expectations
Exposure to rapid technological changes

(Derived from: KPMG Audit Committee Institute, Shaping the audit committee agenda, May 2004)

What measures can we use?

Scenarios

- ‘potential vulnerability to exceptional but plausible events’ (Basel Committee)
- Events must have a low probability of occurring but should be realistic – ‘the nastiest you can imagine without being unrealistic’
- They are stories, which is why they are effective and generate buy-in
- They are combinations of events; a single event is a stress test
- Outcomes often too modest – they must be severe enough

Natural biases when developing scenarios and RCSAs

- Wikipedia gives 84 types of ‘cognitive bias’, but they tend to resolve down to 3:
- Judgemental
 - Availability bias (and the elephant)
 - The ease with which relevant information is recalled or visualised, generally from personal experience
 - Anchoring bias
 - Arises when participants start with an initial value (including external loss data) and adjust it to yield their final answer.
- Motivational
 - Arises when participant has an interest in influencing the results

Overcoming biases

- Two (or more) pairs of eyes, i.e. peer review
- Challenge by Group functions, e.g. Risk
- Internal audit of the risk assessment *process*
- Comparison of actual losses (including external data) against experts' expectations
- Anchoring: Mitigate with 'deliberate use of availability', i.e. ask participants to posit extreme values for impact and then come up with scenarios outside those values

Considered too unlikely to plan for...



CIA scenario planners rejected this scenario as being just too unlikely

Issues with scenarios

- Outcomes too modest
- Not considered credible by the business – ‘the nastiest you can imagine without being unrealistic’
- Mechanical, point in time
- Did not capture reputational risk
- Forgot the crisis management team and who will run business as usual

Scenario analysis is an important risk management tool

- Alerts management to **adverse unexpected outcomes**
- Supplements other risk management approaches, especially during periods of expansion, **providing data when none is available**
- Provides **forward-looking** assessments of risk
- **Overcomes** limitations of models, including **the 'tail' problem, and historic data**
- Supports internal and external communication and **generally gets buy-in**
- Feeds into **capital and liquidity planning**
- Assists in setting and challenging **risk tolerance and appetite**
- Facilitates **contingency planning**

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Uses of the operational risk appetite process

- Challenges strategy development and strategic decision-making
- Expands understanding of strengths and competitive advantage
- Identifies resource gaps i.e. capacity and constraints
- Fundamental to assessing insurance and outsourcing decisions
- Helps to assess mergers, project, investment and M&A decisions

Takk!

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